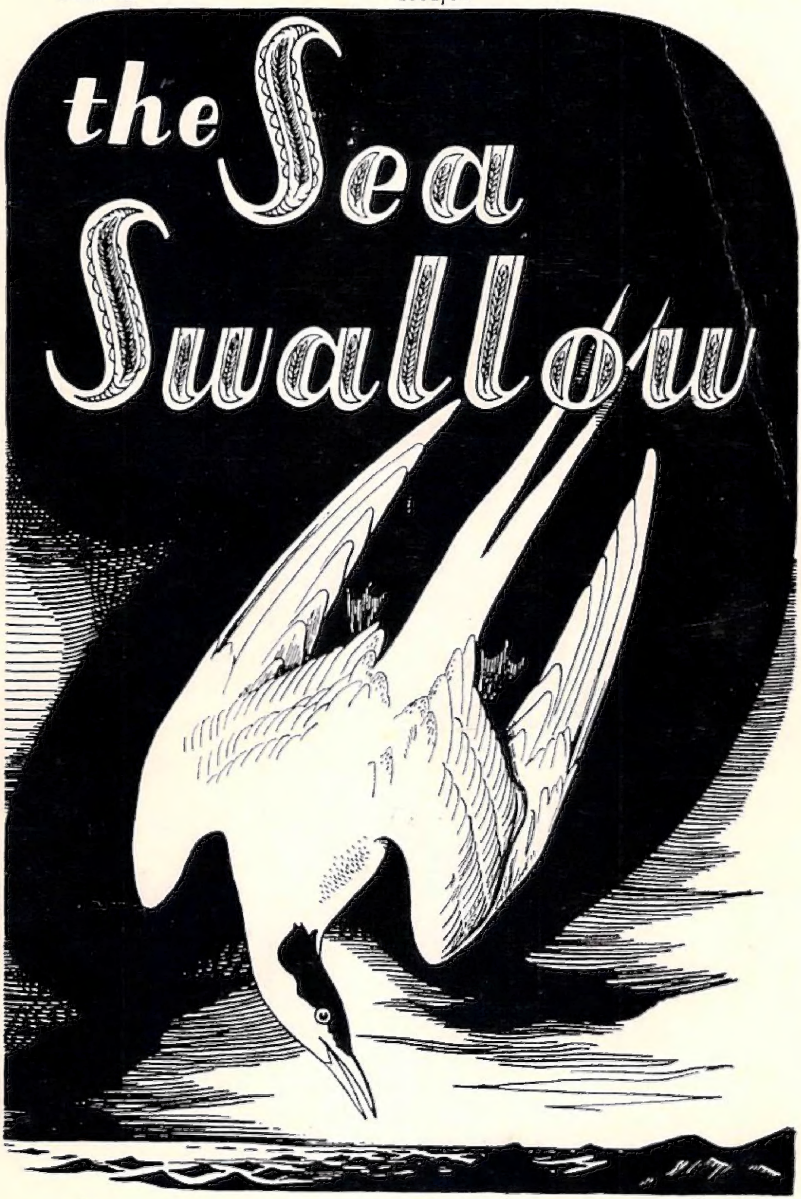
VOL. 22 1971/72

the Sea Swallow



BEING THE ANNUAL REPORT OF THE ROYAL NAVAL BIRD WATCHING SOCIETY

PUBLISHED 1973

ROYAL NAVAL BIRD WATCHING SOCIETY

Affiliated to:

The international Council for Bird Preservation, British Section

The British Trust for Ornithology

Patron:

His Royal Highness The Duke of Edinburgh, K.G.

President:

Admiral Sir N. S. Henderson, G.B.E., K.C.B.

Vice-Presidents:

The Master, The Honourable Company of Master Mariners

Commandant Daphne Blundell, C.B., Hon. A.D.C., Director W.R.N.S.

Miss Christine Thompson, R.R.C., Q.H.N.S., Matron-in-Chief, Q.A.R.R.N.S.

Commander Sir Peter Scott, K.B.E., D.S.C.*

EXECUTIVE COMMITTEE 1972/73

Chairman:

Captain G. S. Tuck, D.S.O., R.N. (retrd.), M.B.O.U.

Vice-Chairmen:

Captain Sir Thomas Barlow, Bt., D.S.C., R.N.(retrd.), M.B.O.U.

Captain E. F. Aikman, M.N., representing Merchant Navy membership

Hon. Secretary and Treasurer:

Lieut. Commander E. S. W. Maclure, R.N. (retrd.), M.B.O.U.

Assistant Editorial and Secretarial Staff:

Assistant Editors:

Dr W. R. P. Bourne	Sea Report Analysis
Captain N. B. J. Stapleton, R.D.	Meteorological Bird Reports
J. H. Agnew	Ocean Weather Ships—Analysis

Captain E. F. Aikman, M.N. Also for all applications for Sea Passage Report Form replenishments.

The following Ornithologists kindly assist the Society in an advisory capacity:

Dr. J. G. Harrison	D. J. Watkins-Pitchford, Esq.
Dr. B. B. Roberts	R. M. Lockley, Esq.

Professor V. C. Wynne-Edwards, C.B.E.

Addresses for Correspondence:

Chairman—8 Little London, Chichester, Sussex, PO19 1PH

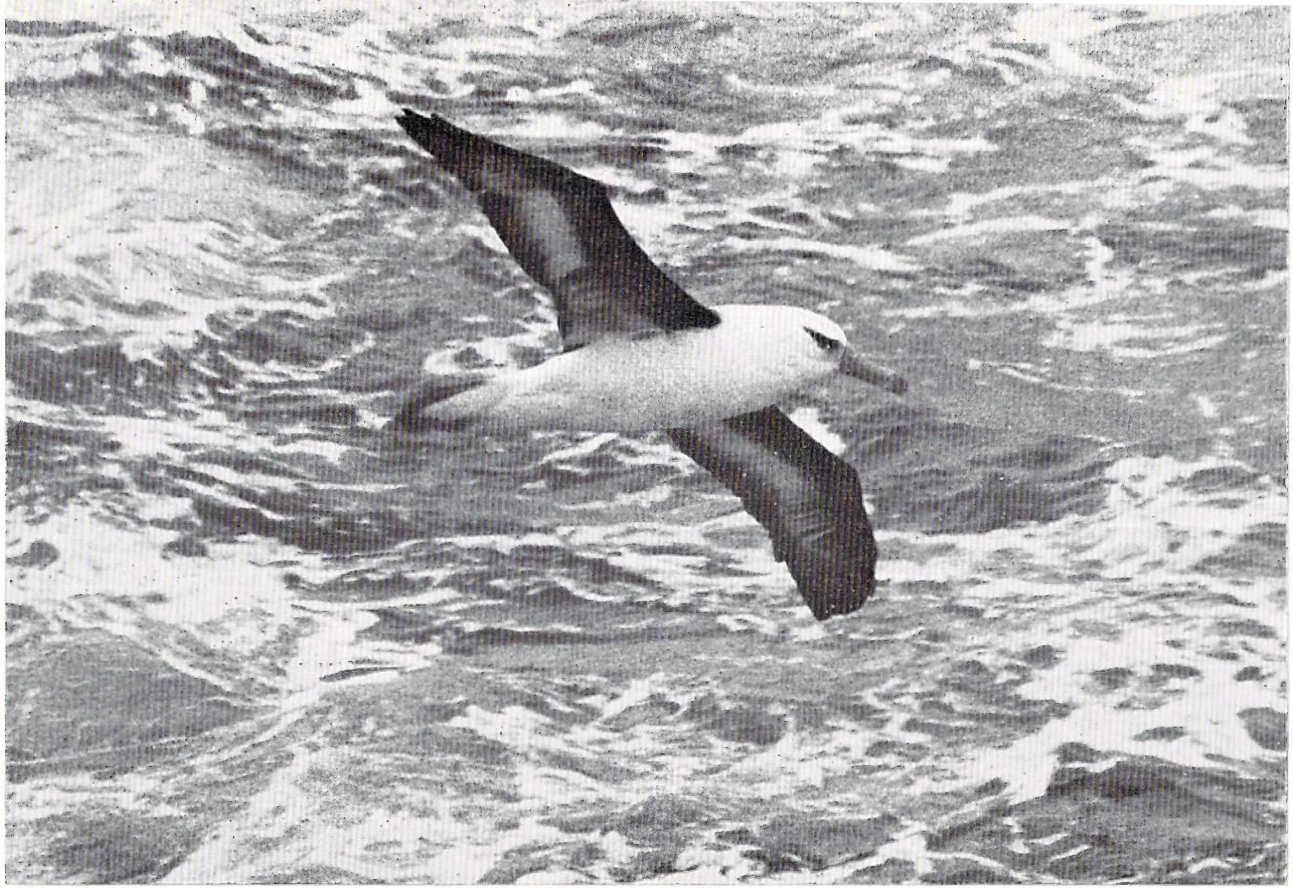
Hon. Secretary and Treasurer (and for details of membership)—"Melrose", 23 St. Davids Road, Southsea, Hants. PO5 1QH

Captain E. F. Aikman, R.D., R.N.R., M.N.—"St. Cyrus West", 48 Hepburn Gardens, St. Andrews, Fife, Scotland, KY16 9DF

Captain N. B. J. Stapleton, R.D., M.N.—38 Wilbury Crescent, Hove, Sussex, BN3 6FJ

J. H. Agnew, Esq.—210 Main Road, Broomfield, Chelmsford, Essex, CM1 5AJ

Dr. W. R. P. Bourne—University of Aberdeen, Department of Zoology, Tillydrome Avenue, Aberdeen, AB9 2TN



Black-browed Albatross (*Diomedea melanophris*)
Photo: Radio Officer E. L. Marchant

CONTENTS

Page

EXECUTIVE COUNCIL 1

CONTENTS 3

FOREWORD 4

EDITORIAL 5

THE GREY GULL
By Second Officer S. E. Chapman 7

H.M.S. *ENDURANCE*, PASSAGE TO ANTARCTIC—OBSERVATIONS OF SEABIRDS
By General Sir Gerald Lathbury, G.C.B., D.S.O., M.B.E. ... 10

THE SEABIRDS OF MASIRAH ISLAND
By Captain M. J. Strickland, M.N. 16

SEABIRD OBSERVATIONS FROM O.W.S. SHIPS IN NORTH ATLANTIC—1970, 1971
Summarised by J. H. Agnew... 20

LANDBIRD OBSERVATIONS FROM O.W.S. SHIPS IN NORTH ATLANTIC—1970, 1971
Summarised by Captain G. S. Tuck, D.S.O., R.N. ... 27

EXTRACTS FROM METEOROLOGICAL LOG REPORTS
Summarised by Captain N. B. J. Stapleton, R.D. 27

LANDBIRDS AT SEA
Summarised by Captain G. S. Tuck, D.S.O., R.N. ... 28

SHORT NOTES 29

REVIEW OF OBSERVATIONS OF SEABIRDS, 1967-1969
By W. R. P. Bourne and T. J. Dixon 29

REVIEW The Handbook of Australian Seabirds, D. L. Serventy, Vincent Serventy and John Warham, 1971 60

NEW MEMBERS, 1971, 1972 (to date of publication), R.N.B.W.S. Representatives, Museums, etc., Associate Members 61

FINANCIAL STATEMENT, 1971 ... ... end paper

FOREWORD

Sea Swallow celebrates the 25th anniversary of the founding of the Royal Naval Birdwatching Society in this edition. It is a happy coincidence that this falls in the same year as the Silver Wedding of our patron, Prince Philip, who as everybody knows does so much to promote the ideals that the R.N.B.W.S. stands for.

At the end of 25 years the R.N.B.W.S. is as strong as ever thanks to the enthusiasm of all those members who contribute and analyse the important sea reports that continue to flow in and to the untiring efforts of the co-ordinating staff, particularly our Chairman, Captain Gerald Tuck.

The R.N.B.W.S. is fortunate in having as its unique environment the seas of all the world which cover about three-quarters of the globe. There is still so much to be learned about the bird life of the oceans and it is satisfying to know that our Society makes such a worthwhile contribution to this widening of knowledge.

Having lived in the U.S.A. and on the continent of Europe for the past six years I know in what esteem the findings of the R.N.B.W.S. are held by foreign societies as well as British ornithological authorities. This is most encouraging, but it does so much depend on high quality reporting and analysis.

This year emphasizes the increasing contribution that our Merchant Navy members make to the work of our Society. At the recent Annual General Meeting held in London a Vice-Chairman from the Merchant Navy was formally elected. The total integration of the Merchant Navy into the R.N.B.W.S. is most welcome.

The R.N.B.W.S. is all embracing and therein lies its main strength. It covers all the oceans of the world, and its membership is composed of all manner of people whose business is on the seas.

Let us hope that in the next 25 years the Society will go from strength to even greater strength and will continue to provide interest and enjoyment for those who participate in its work.

NIGEL HENDERSON, *President*

EDITORIAL

The inception of the formation of the R.N.B.W.S. had been taking place in 1946. Its first Annual Report was published and circulated in December 1947, and this volume represents the SILVER JUBILEE of our Society.

During the twenty-two years that I have acted as its Editor I had always hoped that *Sea Swallow* would reach its destinations safe and sound. On one occasion in 1970, as Mr George Edwards recalls as he stood on the beach at Cousin Island in the Indian Ocean, *Sea Swallow*, perhaps due to its title, almost eluded that hope and made history in an unexpected way. I quote from his letter: "I watched with some interest as two Seychellois natives paddled a dugout Pirogue towards the shore through crashing breakers and a strong cross current. Picking their moment the two oarsmen swept in on the crest of a breaker, over-stepped the mark, and boat, men and some packages were plunged into the boiling foam. One man dived upon various pieces of cargo finally flinging them ashore. Retrieving and opening one package I was greeted by *Sea Swallow* fused into a solid pulp. Hanging my copy on a clothes line however I succeeded finally in dividing the salt-drenched paper and even reading its contents!"

THE INCREASE IN THE VOLUME OF REPORTS FROM SEA. A notable and welcome feature during the past few years has been the marked increase in sea passage seabird and landbird observations received from members, and also from the meteorological log bird reports from observers in British Merchant ships who are not as yet members. The extent of the arduous task imposed upon Dr W. R. P. Bourne, whose continuous work in summarising observations on behalf of R.N.B.W.S., is well illustrated in the opening page of the summary of seabird observations 1967-69 contained in this issue. Two sides of a single page in a seabird or landbird passage report often involve a dozen or more individual observations. During the three years to mid-1972, 175 pages of landbird observations at sea have also been received from members.

PUBLICATION OF *SEA SWALLOW*. In an attempt to include more timely information in a given issue the system has been changed to include material *received* during the previous year and that *received* up to the middle of the current year, e.g., Vol. 22 1971/72. Since the particular factors involved in processing the quantity of data received may not be appreciated fully, a brief outline may be allowed.

Sea records relate to passages from all the world's oceans at different seasons and dates. Inevitably in some cases considerable delay occurs both in the preparation of the forms, and receipt from distant parts may well refer to observations from a preceding year. In tabulated statements demanding the arrangement of individual

species in dated sequence within oceans final preparation cannot commence until after the last report is received before the closing date for the particular volume. Initially reports of every sort are forwarded to the Chairman/Editor for checking, listing, plotting individual seabird reports as applicable, extracting notes of special interest, answering queries in accompanying letters (always most welcome), and building up material for *Sea Swallow*. Thereafter, appropriate records such as Ocean Weather Ship returns and meteorological log extracts are passed to our Assistant Editors periodically, seabird forms to Dr Bourne, and the closing date for the inclusion of the various sections of the volume settled in advance. Time then elapses before all material can be collated, sent to printers, galley proofs checked and ultimate printing and publication.

Due to Dr Bourne's other important commitments it has not been possible to complete the most arduous task of summarising seabird reports in detail in every volume. In this issue the results of the three years 1967-1969 are included and it has been necessary to curtail certain other sections to accommodate the additional pages involved.

COST OF PUBLISHING *SEA SWALLOW*. Printing costs have risen considerably and the present edition has been undertaken by a new printing firm as a result of a more competitive tender.

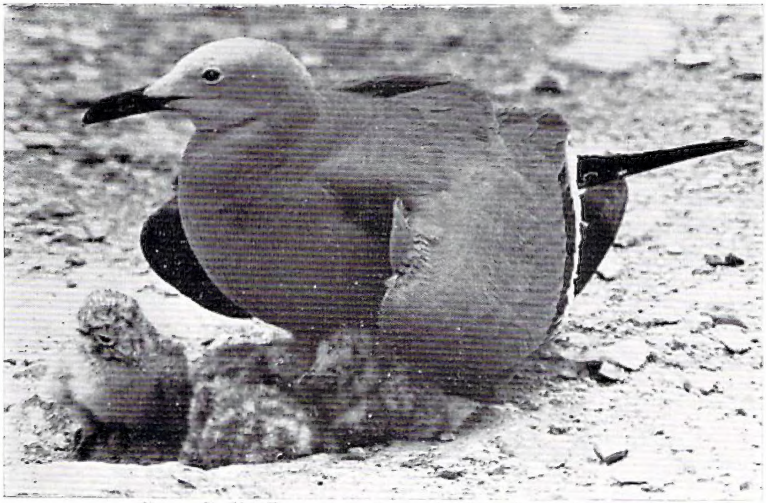
A FEW REMINDERS FOR MEMBERS

SPECIMENS OF SEABIRDS AND LANDBIRDS FOUND DEAD ONBOARD. See *Sea Swallow* Vol. 21, 1969/1970. Specimens should now be addressed to Dr P. J. K. Burton, British Museum (Natural History), Sub-department of Ornithology, Tring, Hertfordshire.

REPORTING OILED SEABIRDS. Reports direct to Mr David Lea, Advisory Committee on Oil Pollution at Sea, R.S.P.B., The Lodge, Sandy, Bedfordshire.

RINGED PIGEONS ONBOARD. Report details direct to The Secretary, National Homing Union, The Reddings, nr. Cheltenham, Gloucestershire.

G. S. TUCK, *Editor*.



Grey Gull (*Larus modestus*). Shading chicks
Photo: S. E. Chapman

THE GREY GULL, *Larus modestus*
By Second Officer S. E. Chapman

I first encountered this strange bird in 1963 when at Paita in North Peru. I remarked on their leaden grey colour with the white beading on the wing edge and a lavender grey head – the latter feature being present only in the breeding season. On subsequent voyages I found them common in harbours and at anchorages along the west coast of South America. Ships clearly offer them an easy way of supplementing their natural diet of small fish – principally anchovy. The gulls can be seen flocking in thousands round the fishing boats and will hover over the sea where it seethes with dense shoals of these fish. The open sandy beaches also provide feeding grounds and here the birds deftly pick up 'pulgon del mar' or sand fleas from the base of retreating waves. I seldom saw the birds in any numbers away from the coasts; they are truly natives of the littoral.

This Humboldt Current gull held a fascination for me – the older books I read could only state rather vaguely that it nested in the deserts of northern Chile. The first studies at a colony in Antofagasta Province were made by Dr. T. Howell of the University of California in January and February 1970. My studies of sea birds along these coasts gradually persuaded me that to augment information I had already amassed I should now try to start looking at them from the shore. Thus the idea of the "South American Expedition 1970" came about. Taking a Land Rover, full camping equipment and Pat, I disembarked at Callao in November 1970.

One of the objectives was to locate a 'garumal', as the Grey Gull colonies are known locally and to obtain photographs of their nests and study their nesting behaviour.

We made our way south following the Pan American highway through miles of sandy deserts occasionally interspersed with a green fertile valley. Stopping to watch the sea at intervals we noted how few Grey Gulls were to be seen. Those groups present were busy in courtship and copulation. Surely they do not then fly all the way south to the Antofagasta region to nest? It would seem to be so, as we found no indications of the birds nesting in Peru although essentially similar sandy and rocky terrain abounds there. R. A. Hughes who regularly birdwatches at Mollendo confirms that there is a disappearance of Grey Gulls from the beaches in that area especially during January, and to back this up we counted over several days in this region steady southerly movement of the gulls.

On New Year's Eve we arrived at Antofagasta and met Peter Brown, who had visited a garumal near Cerro Colupo the season previously. He agreed to come as guide and assist in our studies. We were provided with an excellent map drawn by Bill Millie who had accompanied Dr. Howell in 1970. The garumal was sited some 50 kms. from the coast about 1800 metres up in a remote part of the nitrate desert five hours drive from Antofagasta by Land Rover. We set off into the desert and located the general area without difficulty, the line of hills being easily recognisable from photographs. But where were the birds? Perhaps we were too early, or perhaps the tyre marks indicated that men had been to ravage the eggs to sell illegally in the local markets. It was five o'clock in the afternoon and the heat from the sun was no longer so fierce, but the pampa wind continued to blow strongly and everywhere was utter desolation; not a living plant or animal to be seen: just sand, the pinkish dust and broken rock. Looking around we found a few dried chicks from past seasons, the odd grey feather and whitened rocks, so obviously they had once nested here. We split up to search the area and soon, on the horizon, Pat spotted a mass of dark objects rising into the air and I heard their plaintive cat-like cries carried on the wind. We set up camp in a hollow, pitching tents which gave us shade from the sun and helped to keep the fine dust out of our sleeping bags.

A quick reconnaissance before nightfall showed that the majority of gulls present had a complete clutch of two eggs – pale creamish in colour and lightly marked with brown and sienna spots – but some already had newly-hatched chicks. The nest itself is merely a shallow depression in the ground more often than not sited adjacent to a large stone which, as we later saw, offered a little protection to the chick and served as a perch for the parent bird. The colony was immense and must have consisted easily of ten thousand pairs over an area of several square miles. I carefully erected a hide and next morning Peter shadowed me into it then

left, so that the birds around quickly returned to their nests unaware of my presence. I set up cameras and waited for action. The colony was quiet and throughout the day there was little activity unless the gulls were disturbed by a predator. This proved to be the general daytime pattern. As the sun climbed higher the parent bird would rise from its eggs or chicks to allow the breeze to blow beneath its body and keep the eggs cool rather than incubating them. By 1400 hours the birds would be straddling their nests with feathers on their backs fluffed up to provide insulation against the intense heat. Our thermometer showed a daily mean maximum temperature of 35°C.

Most days at about 1100 hours Turkey Vultures, *Cathartes aura*, would come drifting over the hills from the coast, sometimes as many as 40 birds, to raid the nests, sucking the contents of the eggs and causing a terrific commotion amongst the nesters. Later, when few eggs remained, the vultures fed on dead chicks, but were never seen to take live ones. Peregrine Falcons, *Falco peregrinus*, were also frequent visitors and their masterly lightning raids caused as much disturbance. They would swoop down, pluck a cowering chick from the ground and depart to a favourite high spot to feed. The chicks, in what to an observer seemed a foolish reaction, would scatter at the approach of predators instead of keeping low and using their camouflage, which I am sure made them more conspicuous. The parents would call anxiously from overhead and then they too would attack viciously at the running chicks for violating another's territory.

Darkness comes rapidly in these latitudes and to watch and photograph the night activities I was fortunate in having a full moon. The colony lay still and silent until about 2200 hours when the relief birds began to arrive in small numbers from the coast. By 2300 hours there is an unbelievable frenzy of activity; birds flying low, calling to find their mates and scurrying amongst the nests. The change-over is a perfunctory affair with little or no greeting for the relief. The birds exchange brief calls and the sitting bird departs immediately. As the chicks peck at the parent's bill for food the parent bird then regurgitates a bolus of anchovy into the chick's gape. We found that not all the birds are relieved nightly; a few sit it out in the desert for two days and a night before returning to feed on the coast. The larger chicks we found in our daily weighings of marked individuals were able to increase their weight by as much as 40 grams from one day to the next.

We made subsequent visits to the garumal and were disappointed to see that so few of the young had survived beyond a few days. The mortality rate in such a harsh environment is bound to be high and the Vultures, Peregrines and Condors, *Vultur gryphus*, all contributed to their casualties, though for some unexplained reasons this year's breeding success was particularly low. Could it be due to the decreased availability of fish in the coastal

waters? Possibly this was so as the boats we went out on in the vicinity seemed to have difficulty in finding shoals of any size.

At this time the Cerro Colupo garumal is the only one known to science. That others exist in northern Chile is certain because of the large numbers of flocks of Gulls we noted along the coast south of Copiapo during January. The deserts are vast and searching haphazardly is quite pointless. We did, however, meet a miner at a small copper mine near the coast who told us that he had heard Gulls passing overhead at night and that he had himself collected eggs from a garumal near an old gold mine in the area. The altitude of that area is right, about 2,000 metres, and it was unfortunate that it was then March and too late to expect to find Gulls present. A search will have to wait for another year.

Acknowledgement – I would like to acknowledge with thanks the help given by Furness, Withy & Company Limited in this study. [Reproduced by kind permission of the Seafarers Education Service. Ed.]

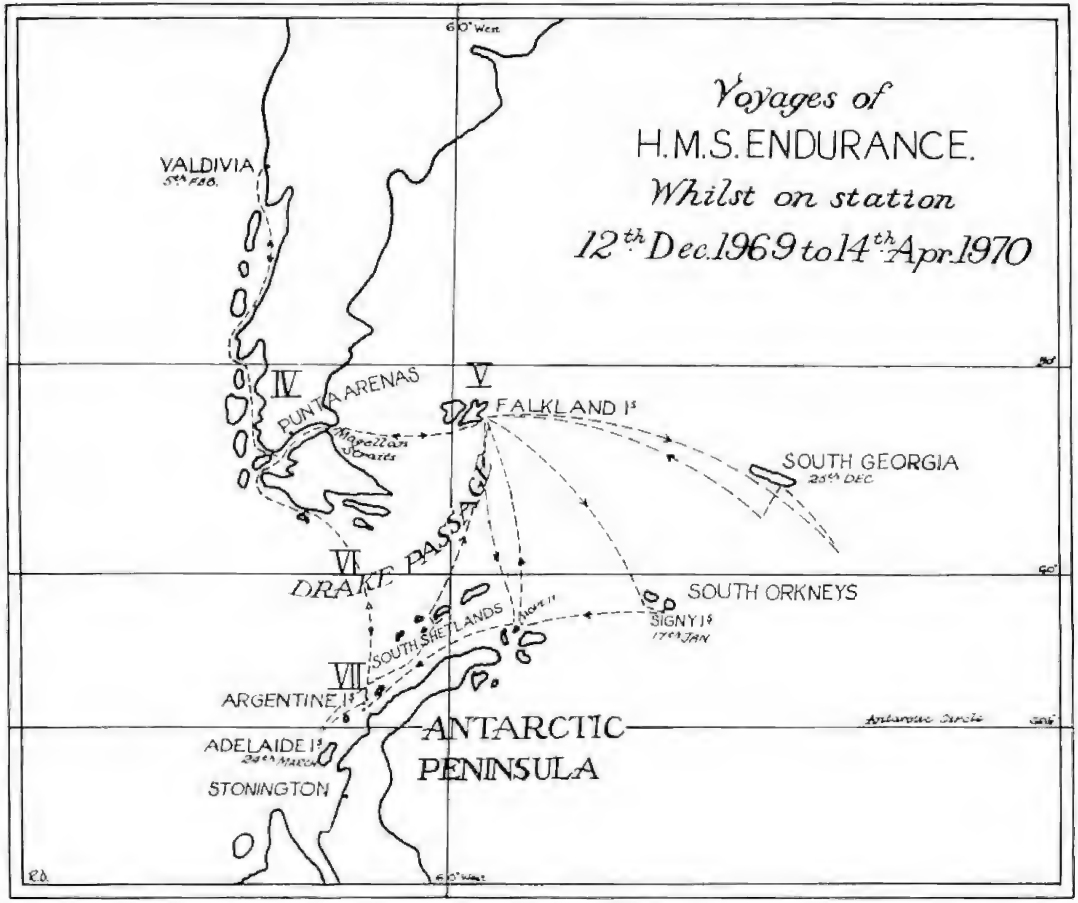
H.M.S. *ENDURANCE* – PASSAGE TO THE ANTARCTIC – OCTOBER 1969 – MAY 1970 OBSERVATION OF SEABIRDS

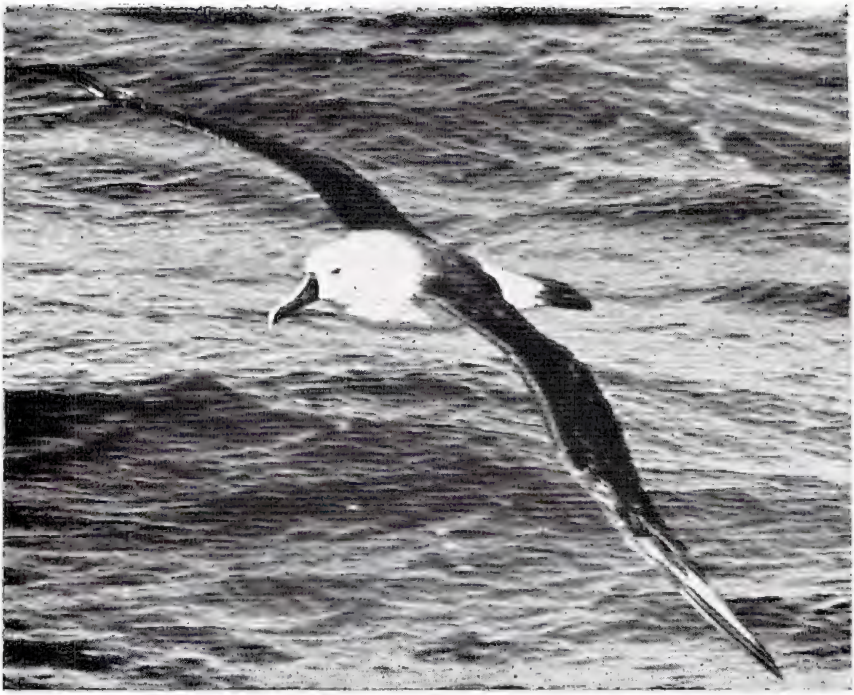
By General Sir Gerald Lathbury, G.C.B., D.S.O., M.B.E.

NOTE BY EDITOR. [Unfortunately space in *Sea Swallow* does not admit of Sir Gerald's original fully documented account of the whole long journey in which he devoted his time to birdwatching, adding many delightful scenic descriptions. He has kindly allowed me to pick and choose those sections which throw light on areas less well known to voyagers at sea. Thus that part of the voyage from England until clearing the Gulf of Panama has been omitted, and the latter part of the return journey to England omitted. Sir Gerald took passage in H.M.S. *Endurance* at the invitation of the Commanding Officer, Captain P. Buchanan, Royal Navy.]

PART I. WEST COAST OF SOUTH AMERICA TO THE ANTARCTIC. MAP AREA 111

On 15th November 1969, at 4°S proof that we had reached the cold upwelling Humboldt Current became evident by the great numbers of birds seen feeding and resting on the sea. During this and the following two days, 16th-18th November, 17 different species were recorded as follows: Waved Albatross, Pink-footed Shearwater, Sooty Shearwater, Leach's Storm-petrel, Black Storm-petrel, both seen earlier at 8°N, Markham's Storm-petrel, Hornby's Storm-petrel, Galapagos Storm-petrel, Red-billed Tropic-bird, Chilean Pelican, Peruvian Booby, Grey and Red-necked Phalaropes, Arctic Skua, Franklin's and Sabine's Gulls and Elegant Tern. Some of


Voyages of
H.M.S. ENDURANCE.
Whilst on station
12th Dec. 1969 to 14th Apr. 1970
60° West
VALDIVIA
5th FEB.
IV
PUNTA ARENAS
Magellan Straits
V
FALKLAND Is
SOUTH GEORGIA
25th DEC.
VI
DRAKE PASSAGE
SOUTH ORKNEYS
SIGNY Is
17th JAN
SOUTH SHETLANDS
VII
ARGENTINE Is
ADELAIDE Is
24th MARCH
STONINGTON
ANTARCTIC
PENINSULA
Antarctic Circle
60° West



Yellow-nosed Albatross, *Diomedea chlororhynchos*
Photo: Radio Officer E. L. Marchant

Grey-headed Albatross, *Diomedea chrysostoma*
Photo: 2nd Officer A. J. J. Gray, N.Z.S.CO.
The dusky grey head and neck does not show up in the bright light. The rich yellow bands on bill with pink tip, dark eye and white back half ring behind are all distinctive

these were in great numbers, the most noteworthy being 1,000-2,000 Hornby's Storm-petrels, with Phalaropes of the same order. Sooty Shearwaters, Franklin's and Sabine's Gulls were present in hundreds. It was also a surprise to see Waved Albatross in rafts of 15-20 birds at 9°S.

On 20th November we entered Callao, and while in this area Humboldt Penguins, great numbers of Sooty Shearwaters, Chilean Pelicans, Peruvian Boobies, Guanay, Bigua and Red-legged Cormorants, Franklin's Gulls, Chilean and Inca Terns and other species were seen.

South from Callao towards Valparaiso there was a noticeable change in the pattern of seabirds, the ship being some distance from the coast with a decrease in Guanay birds, and the appearance of Gadfly Petrels which breed on the Juan Fernandez Group of islands. These were difficult to identify with certainty but appeared to be at least Stejneger's and Kermadec Petrels. Nearing the latitude of Valparaiso Wandering and Black-browed Albatrosses appeared together with a small number of Southern Giant Petrels, Cape Pigeons or Pintado Petrels, Southern Fulmars and White-chinned Petrels. Before entering the Straits of Magellan the White-bellied Storm-petrel was seen for the first time, Gadfly Petrels and Grey Phalaropes.

MAP AREA IV. STRAITS OF MAGELLAN AND PATAGONIAN CHANNELS. DECEMBER – APRIL

While in the south we spent 10 days at different periods navigating the maze of waterways north and south of the Straits to and from Punta Arenas. The scenery was magnificent, high snow-covered mountains, glaciers reaching to the water and waterfalls cascading down the vertical cliffs. Magellan Kelp Geese stood at intervals along the shore and Flightless Steamer Ducks flapped madly to clear the ship's bow. Seabirds were plentiful and varied little: Magellan Penguins were often seen fishing, Black-browed Albatrosses, Southern Giant Petrels, White-chinned Petrels, Sooty Shearwaters, Wilson's Storm-petrel, Magellan Diving-Petrel, Bigua, Magellan, Blue-eyed and King Cormorants, Southern Black-backed Gulls, Southern Skua and South American Tern. In March and April many Southern Fulmars were present.

MAP AREA V. FALKLAND ISLANDS AND ADJACENT WATERS. 11th DECEMBER – 13th JANUARY

On arrival at Port Stanley I remained for a month at the kind invitation of the Governor, Sir Cosmo Haskard. Although much is known of the breeding seabirds there are more than 200 islands besides East and West Falkland, seldom if ever visited owing to difficult communications. It is not surprising that the Great Shearwater had only recently been proved to breed there. I was able to visit a number of the better known islands. Although 63 breeding species of all types are known, 21 species of seabirds is a formidable one and includes: PENGUINS: Gentoo, King, Rock-hopper, Macar-

oni. Magellan, with the King Penguin recently re-established. ALBATROSSES: Black-browed well established: an odd pair of Grey-headed Albatrosses breed amongst the colonies. PETRELS: Southern Giant and White-chinned. PRIONS: Thin-billed. SHEARWATERS: Great and Sooty. STORM-PETRELS: Grey-backed and Wilson's. DIVING-PETRELS: Common. CORMORANTS: Magellan and King. GULLS: Magellan, Southern Black-backed and Patagonian Black-headed. TERNS: South American.

The surrounding waters are rich in food: sometimes vast numbers of seabirds can be seen feeding, while the Kelp covered beaches provide food for a variety of geese, ducks and shore birds.

MAP AREA VI. THE DRAKE PASSAGE. 14th–16th JANUARY, 25th–27th JANUARY, 22nd–24th FEBRUARY, 13th–14th MARCH, 21st–22nd MARCH, 31st MARCH–2nd APRIL

We crossed these notoriously stormy waters 6 times. The number and variety of seabirds does not compare with many parts of the coasts of South America, but nevertheless it is a particularly interesting area. The Grey-headed and Light-mantled Sooty-Albatrosses were recorded regularly, the former numerous south of Cape Horn where they breed. Black-browed Albatrosses were common, Wandering Albatrosses more scarce, a high proportion in full adult plumage; one conjectures whether some may not have been Royal Albatrosses but this was not confirmed. Both the Great-winged or Grey-faced Petrel and Schlegel's Petrel were recorded, the latter in considerable numbers, and the Kerguelen Petrel relatively common at least in March and April. The Blue Petrel and Common Diving-Petrel were seen more frequently than elsewhere, the Black-bellied Storm-Petrel almost only in the Drake Passage.

AREA VII. ANTARCTIC. 17th–25th JANUARY, 26th FEBRUARY–12th MARCH, 23rd–31st MARCH

H.M.S. *Endurance* made 4 visits to the Antarctic but I missed the first due to my stay in the Falklands. In late January the ship visited Signy Island in the South Orkneys, thence to the area of Hope Island off the northern tip of the Antarctic Peninsula. The 3rd visit in February took us to Argentine Island, 65°S. on the west of the Peninsula. Heavy pack ice prevented a visit to Adelaide Island, but I was able to pay a short visit by air through the kindness of Rear Admiral Sir Edward Irving and Sir Vivian Fuchs. The final visit in March made a further attempt to reach Adelaide Island from the Argentine Island Base, but was once again halted by pack ice at 67°40'S only 30 miles from the island.

The pattern of bird life is so similar that it is sufficient to describe the second visit to the South Orkneys. Signy Island has an immense variety and density of breeding seabirds which include: PENGUINS: Gentoo, Adelie, Chin-strap and Macaroni; PETRELS: Southern Giant, including the striking white form, Pintado and Snow-Petrels: STORM-PETRELS: Wilson's and

Black-bellied: PRIONS: Dove Prion. Yellow-billed Sheathbill: CORMORANTS: Blue-eyed: GULLS: Southern Black-backed: SKUAS: Southern Skua: TERNS: Antarctic Tern. Being shown round by two members of the Base, making use of a boat, a great deal could be seen in the short time available. During visits further south in late February and March most of the Penguins had dispersed from their rookeries. We visited other islands and parts of the Antarctic Peninsula during the Antarctic summer and autumn, but the northern edge of the pack ice prevented a view of Emperor Penguins which are usually on the ice as they move northwards. Blue-eyed Cormorants, Southern Skuas, Southern Black-backed Gulls and Terns were seen normally close inshore. Further to seaward the striking Antarctic Petrel, Snow Petrel, Southern Fulmar and Pintado Petrel often followed the ship, sometimes 50 or more Antarctic Petrels would be together, but rarely north of 65°S. Southern Giant Petrels, Wilson's Storm-Petrels and Southern Skuas were numerous everywhere.

HOMEWARD BOUND

The Antarctic winter was fast approaching and on 16th April 1970, H.M.S. *Endurance* sailed from Port Stanley homeward bound. Wandering and Black-browed Albatrosses and White-chinned Petrels followed the ship. Of particular interest were two Long-tailed Skuas and a Sheathbill, (the latter as a passenger) which were still present until 18th April at 41°S, 260 miles from land, at which point the Sheathbill disappeared. Leaving Mar del Plata at 38°S on 19th April, Magellan Penguins and Yellow-nosed Albatrosses, for the first time, were seen amongst our regular Albatrosses, Southern Giant Petrels and Pintado Petrels. During the passage to Rio de Janeiro Great Shearwaters and Wilson's Storm-Petrels were migrating northwards, and Schlegel's Petrels appeared. Brown Boobies and Magnificent Frigate-birds were present in the harbour approaches.

By 7th May H.M.S. *Endurance* had cleared the N.E. point of South America steering to pass well to the westward of the Cape Verde and Canary Islands. Apart from a few Blue-faced Boobies, Sooty Terns and numerous Wilson's Storm-Petrels at the outset, several days passed without a bird being sighted, except one or two Cory's Shearwaters and the first Bulwer's Petrel at 14°30'N on 10th May. It was not until reaching Madeira on 15th May that large rafts of Cory's Shearwaters and Manx Shearwaters appeared in the lee of the island, together with a few Little Shearwaters. The greatest surprise was the abundance of Bulwer's Petrels, more than 100 being counted during the day.

[The ship reached Portsmouth on 20th May. A total of 112 separate species of seabirds had been identified during the 7 month voyage. Ed.]

(*Footnote*. Copies of the original complete article together with its Appendix listing the full list of seabirds encountered at periods of the voyage are available in the library of the Edward Frey Institute at Oxford.)

Aden Gull, *Larus hembrichi*
In winter plumage on southern shore of Red Sea
Photo: Captain G. S. Tuck, R.N.

THE SEABIRDS OF MASIRAH ISLAND

By Captain M. J. Strickland, M.N.

Introduction. Masirah is situated a few miles off the S.E. coast of mainland Arabia at an approximate position 20°N, 59°E. The island which is some 40 miles long and averages 10 miles wide has a rugged terrain with granite hills and flat limestone ridges rising to almost 1,000 ft. at one point. A broad plain stretches along the western coast and the northern end is also predominantly flat country. Vegetation is everywhere scant but expands temporarily after rainfall. During May to September the S.W. monsoon brings persistent strong winds and blown sand. Throughout the remaining months winds are mainly N.E., light, causing conditions of low humidity and often exceptional visibility. Average rainfall is very low but erratic. During 1970 heavy rain fell on four occasions, but meteorological records show periods of up to eighteen months with negligible amounts.

Seabird Records. Gulls and Terns are abundant throughout the year, and form, together with the waders, the most interesting part of an otherwise impoverished avifauna.

The following notes are based mainly on my own personal records between June 1970 and May 1971. To present as complete a picture as possible observations from other sources are included, the most important being those made by D. Barnes between July 1969 and June 1970, and from two positions each approximately 20 miles from the east coast of the island by R. Bailey in the summer of 1963. The latter formed part of a paper on the seabirds of S.E. Arabia published in 'Ibis' 108: 224-264.

Without doubt upwelling in the area results in an abundant supply of surface food that supports a large and varying population of seabirds both around the island and at sea along the S.E. coast of Arabia.

Records. Pale-footed Shearwater. *Puffinus carneipes.* Recorded in very small numbers near Masirah during the summer 1963.

Persian Shearwater. *Puffinus l'herminieri persicus.* As above in larger numbers.

Jouanin's Petrel, *Bulweria fallax.* Recorded by Bailey in small numbers near Masirah in the summer.

Wilson's Storm-Petrel, *Oceanites oceanicus.* A summer migrant seen close inshore between July and September. Bailey found them abundant offshore during the S.W. monsoon.

Red-billed Tropic-bird, *Phaethon aethereus.* Small numbers seen off Masirah, summer 1963.

Blue-faced Booby. *Sula dactylatra.* Single adult close inshore, June 1970. Probably common offshore as many breed on the Kuria Muria Is.

Socotra Cormorant, *Phalacrocorax nigrogularis.* Rather scarce on the beaches at Masirah. Records mostly of single birds between October and January. However in late September 'hundreds' were seen about 3 miles offshore. These Cormorants are common in the Persian Gulf throughout the year.

Red-necked Phalarope, *Lobipes lobatus.* Birds pass through Masirah during August and September. They are abundant 'wintering visitors' in the Arabian Sea.

Arctic Skua, *Stercorarius parasiticus.* A definite passage through Masirah during late summer and early autumn, records covering July to September, when they have been seen among nesting Terns. Both pale and dark phases observed. [Pomarine Skuas, *Stercorarius pomarinus*, have occurred more commonly from observations at sea. Ed.]

Aden Gull, *Larus hemprichi.* Abundant, with a noticeable decrease during the Autumn. Newly hatched Turtles form part of this Gull's diet. Shellfish are broken by being dropped on to rocks or pebbly beaches from heights of up to 30 ft. Smaller Terns are chased and their food stolen.

Great Black-headed Gull, *Larus ichthyaetus.* One record only from Ripley in 1952.

Northern Black-headed Gull, *Larus ridibundus.* Winter visitor from

November to March. Flocks of 200 seen in February. Greatly outnumbered by Herring and Lesser Black-backed Gulls. Slender-billed Gull, *Larus genei*. Winter visitor recorded from September to May with most records between November and April. Generally small numbers, but up to 100 seen in February. Late Spring birds sometimes show distinct pinkish tinge on breast with approach of breeding season.

Herring and Lesser Black-backed Gulls, *Larus argentatus* and *Larus fuscus*. During winter months at Masirah a complete range of the colour of mantle occurs ranging from black through shades of slate-grey to birds having quite pale grey backs and upperwings with darker primaries. All birds have yellow legs. Reference to literature and my own notes suggests the pattern at Masirah to be thus:

10% have black mantles and deep yellow legs. These are examples of the nominate race of the Lesser Black-backed Gull, *Larus fuscus fuscus*, from northern Eurasia. 10% have distinctly grey mantles and possibly belong to the race of Herring Gull, *Larus a. cacchinnans*, from the Caspian-Black Sea area. 80% have mantles of varying slate-grey shades and are hard to place, but possibly the yellow-legged race from the Mediterranean Basin, *Larus a. michahellis*.

Collectively all these birds are abundant winter visitors, especially numerous from October to April, and not infrequently seen at other times of the year.

White-winged Black Tern. *Chlidonias leucoptera*. Single record, late August.

Gull-billed Tern, *Gelochelidon nilotica*. Rather uncommon. Recorded only from May to September. No record exceeded 6 birds.

Caspian Tern, *Hydroprogne caspia*. Rather uncommon. Recorded in ones or twos, mainly between February and April, but seen every month except June and December.

Crested Tern, *Thalasseus bergii*. Seen throughout the year. In winter outnumbers any other species. Maximum counts from late summer when up to 600 seen together.

Lesser Crested Tern. *Thalasseus bengalensis*. Seen throughout the year. Rather scarce from April to June. Counts of up to 600 in August.

Sandwich Tern, *Thalasseus sandvicensis*. Recorded throughout year. Mainly winter visitor from September to April. Maximum counts 300 in November.

Common Tern, *Sterna hirundo*. Mainly recorded as spring passage migrant from March to May with up to 150 among a flock of White-cheeked Terns. Individual birds seen in November, June, July.

White-cheeked Tern, *Sterna repressa*. The commonest Tern during summer months. Absent from early October to late March. Numbers swollen by passage migrants with counts of up to 2,800 in April, and over 2,000 in August. No breeding colony yet found, but

large numbers of young birds are seen from late June onwards, so it may well breed in the vicinity.

Black-naped Tern, *Sterna sumatrana*. This was one of the most interesting birds seen. The species had not been recorded from Arabia previously, its normal breeding habitat being much further south amongst the tropical islands in the Indian Ocean where it is normally confined within the lagoons of the atolls. The birds were rather small, pale in colour, the head white with a distinct black crescent on the nape, bill black with a white tip and legs dark. A black band through the eye appeared in the field to join the crescent on the nape. Small numbers were seen by myself and Barnes during the summer months. A party of 25 to 30 were seen close inshore on 28th August 1970.

[The possibility of the birds having been immature Little Terns, *Sterna albifrons*, has been discussed with Captain Strickland and discarded. Positive confirmation of any further sightings in the general area remains important. Ed.]

Brown-winged or Bridled Terns, *Sterna anaethetus*. Although no nests or eggs have been found, in June 1970, 2 to 3,000 Brown-winged Terns were seen on a gravel plain near the centre of the island, two miles from the beach. An hour later numbers were seen flying in from sea with food, at the same time that others were flying straight out to sea. In May 1971, the birds were again seen in numbers close to the same locality, but no direct evidence of breeding was found.

Little Tern, *Sterna a. albifrons*. Saunder's Tern, *S. a. saundersi*. I have separated the two forms following Vaurie. Both are similar in general appearance but Saunder's Tern has black outer primaries and *Sterna a. albifrons*, grey. The Little Tern has been recorded as a scarce passing migrant in September only. Saunder's Tern is a very common breeding summer visitor. Nesting in May with eggs in early June. By the end of July young birds are seen on the wing. It usually breeds in small colonies, but isolated nests are quite common, sometimes surprisingly far inland.

Common Noddy, *Anous stolidus*. A scarce summer visitor, so far only recorded in July and August. Not more than 4 birds have been seen at any one time.

It will be appreciated from the list that there remain many gaps in the knowledge of the seabirds of this remote island.

It is possible that Petrels and Shearwaters may breed to say nothing of the White-cheeked Tern. Much more observation on and off shore would certainly add to present known facts.

[In 1970 Lieutenant R. A. Smith, R.N., found an estimated 1,000 Sooty Terns with eggs and young, and in addition about 1,000 White-cheeked Terns nesting on Daimaniyat Island off the east coast of Oman in July, and many Aden Gulls in full breeding plumage but no nests found.

Persian Shearwaters are abundant in the northern quarter of the Arabian Sea and Persian Gulf, while Wedge-tailed Shearwaters, *Puffinus pacificus* and Jouanin's Petrels are reported regularly. Ed.]

OCEAN WEATHERSHIP OBSERVATIONS – SEABIRDS 1970

Summarised by J. H. Agnew

Our thanks to Messrs R. B. Dyer, R. C. L. Aran, J. Mayes and R. M. Ferrie whose combined efforts have made possible the following notes and accompanying table of figures.

Several birds visited the ships (both voluntarily and involuntarily) during the periods on station. At Alpha, in June, a Common Tern landed onboard. It was examined for injury (the ship's cat had had hold of it) and pronounced fit. After two days it was released, but only managed to fly a hundred yards before landing on the water. Fulmars immediately surrounded it and appeared to deliberately drown it by pushing it under. They then pecked it and finally ate it.

A more fortunate member of the same family, an Arctic Tern, visited the ship at Juliet (also in June), and sat preening itself on the Jackstaff for about an hour before flying off.

In September (Juliet again) a Merlin, which a was permanent visitor to the ship for several days, caught and killed three Wilson's Petrels. Two of them it ate onboard, giving the observer a chance to note the distinctive yellow webs on the feet of the dead birds.

A Gannet came crashing onboard one day in thick fog – Station Alpha in June. This bird flew off successfully after eating some fish onboard (which it promptly regurgitated).

Thick fog in July at Station Juliet from an approaching warm front gave the observer cause to remark on the absence of bird life. The only bird reported on the day concerned was a Great Skua which frequently rested on the water.

An Arctic Skua, at Station Alpha, was watched as it continuously harassed the Kittiwakes, leaving the Fulmars strictly alone. Reversing their roles, a Long-tailed Skua (Station India in September) was mobbed by half a hundred Kittiwakes after picking some food off the sea's surface. It was forced to drop the morsel.

Several notes on plumage and recognition were made. For instance an almost pure white Fulmar was seen at Station Juliet on July 23rd. A Guillemot, with the white eye-line of the bridled variety distinctly visible, was seen diving and swimming around the ship at Station Alpha (in June) for about four hours.

Great Shearwaters with their white underparts, flecked white bar across the tail coverts, and part white collar coming from the throat, were described at Station Juliet. One bird to leeward was watched as it made rapid surface dives, its movements very excited.

Wilson's Petrels, fluttering close to the ship at Station Juliet, clearly showed their white rumps, square tails, yellow webs and feet protruding beyond the tail in flight.

Finally, to round off the year's reports, mention must be made of the mammals that were in evidence around the ships. At Station

OCEAN WEATHER SHIP OBSERVATIONS - 1970 - SEABIRD TABLE A

OCEAN STATION ALPHA
62°30′N, 33°00′W
300 miles W x S Iceland

	June 12 July 7	Aug 10 Aug 18	Sept 1 Sept 10	Oct 11 Nov 4	Nov 10 Nov 23	Nov 30 Dec 12
NUMBER OF DAYS	21 days	9 days	10 days	24 days	14 days	19 days
Fulmar Petrel	700 avd 33	740 avd 82	461 avd 46	840 (8b) avd 35	265 avd 32	605 (3b) avd 32
Great Shearwater	148	45	2	1	—	—
Sooty Shearwater	—	5	—	1	—	—
Manx Shearwater	—	—	1	—	—	—
Wilson's Storm-Petrel	—		—		—	
British Storm-Petrel	—		—		—	
Leach's Storm-Petrel	—	—	—	—	—	—
Gannet	17 (5i)	1	5 (2i)	4	—	
Great Skua	—	4	9	3	—	—
Pomarine Skua	—	—	—	2		
Arctic Skua	4	2 (1L)	1	3	—	—
Long-tailed Skua	—	—	2	—		—
Herring Gull	—	—	2	—		1
L.B.B. Gull	2	—	3		—	—
G.B.B. Gull	—	—	19 (17i)	21 (15i)	9 (2i)	4 (2i)
Glaucous Gull	—	—	—	11 (9i)	—	3 (i)
Iceland Gull	—	—	—		—	—
Kittiwake	45 (5i)	143 (3i)	108 (95i)	477 (224i)	53 (8i)	165 (4i)
Tern Sp.	1 (C) 2 (A)	—	8 (A)	1	—	—
Little Auk	3					
Guillemots Sp. Razorbills	13 (G)					

OCEAN STATION INDIA
59.00′N, 19°00′W
250 miles S of Iceland

	May 18 June 15	Jul 8 Jul 28	Jul 31 Aug 20	Aug 26 Sept 12	Sept 25 Oct 8	Oct 9 Nov 1	Nov 26 Dec 19
NUMBER OF DAYS	28 days	21 days	21 days	18 days	14 days	24 days	24 days
Fulmar Petrel	633 (9b) avd 22	565 (3b) avd 27	313 avd 15	189 avd 10	18	450 avd 19	388 (1b) avd 15
Great Shearwater	12	9	37	44	217	8	—
Sooty Shearwater	—	12		2	—	—	—
Manx Shearwater		5	—	2	—	—	—
Wilson's Storm-Petrel	3	—		2	—	—	—
British Storm-Petrel	8	11		3	51	17	—
Leach's Storm-Petrel	—	—	—	—	1	4	—
Gannet	27 (11i)	28 (22i)	2 (i)	—	—	1 (i)	—
Great Skua	6	9	4	10	4	8	1
Pomarine Skua	5	3	—	2	—	2	—
Arctic Skua	—	—		—	—	4	1
Long-tailed Skua	13	—	—	—	—	—	
Herring Gull	—	—	—	10 (4i)	—	—	—
L.B.B. Gull	30 (9i)	4 (1i)	—	—	—	13 (8i)	—
G.B.B. Gull	45 (24i)	—	1 (i)	5 (3i)	—	15 (i)	7 (4i)
Glaucous Gull	—	—	—	—	—	—	—
Iceland Gull	—	—	—	—	—	—	—
Kittiwake	47 (25i)	19 (2i)	8 (2i)	6 (4i)	16	293 (212i)	841 (152i)
Tern Sp.	1 (A)	—	6 (1A)	3 (C)	—	—	—
Little Auk	4	—	—	—	—	—	—
Guillemots Sp. Razorbills	1 (G)	—	—	—	—	—	—

KEY avd – Average Daily Count, i – Immature, b – Blue Phase (Fulmar), G – Guillemot, L – Light Phase (Skuas), SP – Species, A – Arctic Tern, C – Common Tern.

OCEAN WEATHER SHIP OBSERVATIONS - 1971 - SEABIRD TABLE A

OCEAN STATION ALPHA
62°30′N, 33°00′W
300 miles W x S of Iceland

	Jan 10 Jan 30 21 days	Feb 27 Mar 19 21 days	May 9 June 1 24 days	Aug 15 Sept 6 23 days	Oct 28 Nov 20 24 days
Fulmar Petrel	580 avd 27	744 avd 35	740 (4b) avd 25	13290 avd 578	614 (9b) avd 25
Great Shearwater	—	—	—	99	1201 avd 50
Sooty Shearwater	—	—	—	1	3
Manx Shearwater	—	—	—	—	—
Wilson's Storm-Petrel	—	—	—	—	—
British Storm-Petrel	—	—	—	1	—
Leach's Storm-Petrel	—	—	—	—	—
Gannet	2	—	11	1	5 (4i)
Great Skua	—	—	3	42	25
Pomarine Skua	—	—	12	5	17 (12L)
Arctic Skua	—	—	—	10	—
Long-tailed Skua	—	—	—	7	—
Common Gull	—	—	—	—	—
Herring Gull	—	—	—	1 (i)	—
Lesser B.B. Gull	—	2	70 (15i)	10	—
Greater B.B. Gull	102 (49i)	10 (7i)	18 (2i)	12	71 (i)
Glaucous Gull	19 (11i)	20 (4i)	1	4	4 (i)
Iceland Gull	25 (10i)	14 (1i)	14 (1i)	4 (2i)	—
Kittiwake	253 (9i)	247 (74i)	343 (160i) avd 14	1515 avd 66	1296 (101i) avd 54
Sabine's Gull	—	—	—	—	—
Black-headed Gull	—	1	1	—	1
Terns Sp.	—	—	1 (A)	15 (9A)	—
Little Auk	—	—	2	—	1
Guillemot Sp. Razorbills	—	1	44	—	—
Puffin	—	—	—	—	—
Red-necked Phalarope	—	—	—	—	—
Grey Phalarope	—	—	—	2	—

OCEAN STATION INDIA
59°00′N, 19°00′W
250 miles S of Iceland

	Jan 14 Feb 6 24 days	Mar 5 Mar 27 23 days	Mar 29 April 21 24 days	Apr 22 May 12 21 days	May 17 June 6 24 days	June 10 June 23 14 days	July 25 Aug 20 27 days	Sept 13 Oct 1 19 days	Nov 1 Nov 24 24 days	Nov 25 Dec 17 23 days	Dec 18 Jan 9 23 days
Fulmar Petrel	1399 (10b) avd 58	1007 (3b) avd 43	1232 avd 51	856 avd 40	2935 (7b) avd 122	1375 (3b) avd 98	3510 avd 130	1101 (18b) avd 58	3430 (83b) avd 143	2273 avd 98	2575 (20b) avd 112
Great Shearwater	—	1	—	—	—	6	11	—	486	—	—
Sooty Shearwater	—	—	—	—	1	—	22	2	3	—	—
Manx Shearwater	—	—	—	—	19	—	92	1	2	—	—
Wilson's Storm-Petrel	—	—	—	—	—	—	6	—	—	—	—
British Storm-Petrel	—	—	—	—	—	—	—	1	—	—	—
Leach's Storm-Petrel	—	—	—	—	—	—	—	—	—	—	—
Gannet	6	4	14	11	61 (29i)	36	26 (9i)	8 (2i)	2	5	1
Great Skua	—	20	59	40	35	10	19	29	7	2	—
Pomarine Skua	—	—	—	3	26 (15L)	1	5 (2L)	6	2	—	—
Arctic Skua	—	—	—	5	22 (14L)	4	16 (8L)	9	—	—	—
Long-tailed Skua	—	—	—	—	6	5	20	—	—	—	—
Common Gull	—	—	—	—	—	—	19	—	—	4	—
Herring Gull	—	1	—	10	1	—	1	2 (i)	1	1	—
Lesser B.B. Gull	—	1	1	336 (76i)	129 (16i)	55 (17i)	28 (9i)	14 (6i)	—	—	—
Greater B.B. Gull	42 (31i)	15 (4i)	22 (8i)	27 (18i)	6 (4i)	10 (9i)	—	12 (11i)	54 (48i)	—	29 (19i)
Glaucous Gull	—	3	—	1	—	—	—	—	13 (11i)	—	1 (i)
Iceland Gull	—	—	—	—	3	—	—	—	—	—	—
Kittiwake	408 (18i)	1062 (75i) avd 46	1408 (540i) avd 42	879 (512i) avd 42	647 (100i) avd 27	63 (28i)	270 (32i)	165 (50i)	471 (59i)	838 avd 36	597 (10i) avd 26
Sabine's Gull	—	—	1	—	—	—	3	—	—	—	—
Black-headed Gull	—	—	—	—	2	—	8	32 (12i)	—	—	—
Terns Sp.	—	—	—	—	7	—	409 (200A)	1	—	—	—
Little Auk	—	1	—	—	—	—	—	—	7	—	—
Guillemot Sp. Razorbills	—	—	5 (G)	—	8 (3G)	31 (G)	—	—	20	—	—
Puffin	—	1	—	—	5	9	8	—	2	—	—
Red-necked Phalarope	—	—	—	—	—	—	—	3	—	—	—
Grey Phalarope	—	—	—	—	2	—	—	—	—	—	—

KEY avd – Average Daily Count. i – Immature. b – Blue Phase (Fulmar). G – Guille mot. L – Light Phase (Skuas). SP – Species. z – This number probably u

OCEAN STATION JULIET
52°30′N, 20°00′W
360 miles W x S of Ireland

June 5 June 30 24 days	July 1 July 22 22 days	July 24 Aug 15 23 days	Sept 30 Oct 2 23 days	Oct 3 Oct 26 24 days	Dec 17 Jan 7 22 days
1200 avd 50	333 avd 15	920 (6b) avd 40	695 (2b) avd 30	2762 avd 197	411 (10b) avd 19
7	19	116	259	4823 avd 344	—
5	—	10	14	—	10
4	—	6	9	—	1
24	—	2	215	—	—
7	2	8	—	58	—
—	—	—	1 (z)	—	—
43 (25i)	15 (3i)	23 (11i)	15 (14i)	6	3
15	7	4	17	15	7
1 (L)	1	—	25 (L)	23	—
—	12	12	32 (14L)	103	—
—	—	4	11	6	—
2	—	—	—	2	—
1	—	—	—	2	5 (i)
35 (4i)	—	29 (8i)	34 (28i)	14	—
—	—	4 (3i)	1	7	47 (46i)
—	—	—	—	1	2 (i)
—	—	—	—	—	—
24 (4i)	59 (20i)	78 (19i)	29 (24i)	707 avd 50	3200 (23i) avd 145
1	—	—	1	1	—
—	—	3	—	—	—
8	—	8 (1A)	16	—	—
—	—	—	—	—	1
2	—	2 (G)	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—

underestimated. A – Arctic Tern

Juliet schools of Blackfish and Dolphins were observed one forenoon (11th August). Two days later 14 Great Shearwaters, 3 Fulmars and a Gannet were seen feeding amongst a large school of Dolphins. They seemed to concentrate their feeding wherever the Dolphins caused a disturbance.

OCEAN WEATHERSHIP OBSERVATIONS – SEABIRDS 1971

Summarised by J. H. Agnew

Once again we must thank those observers on the British Weather Ships who have sent in notes and records which make the subsequent summaries possible. Each observer tends to keep to one ship, while the ships themselves are shifted from Station to Station. So most of the following observers have been on two, and sometimes three, Stations during 1971:

C. I. Griffiths, Weather Monitor: Juliet; India. R. B. Dyer, Weather Reporter: Juliet: Alpha: India. D. Ogle, Weather Reporter: Juliet; Alpha; India. R. C. L. Aran, Weather Surveyor: Juliet; India; Alpha. J. Meyes, Weather Monitor: Juliet; India: Alpha. R. M. Ferrie, Weather Reporter: India. T. D. Rogers, Weather Surveyor: India; Alpha. R. Philp, Weather Reporter: India; Alpha; Juliet. A. W. G. John, Weather Adviser: India

The weather plays a large part in the numbers of birds seen – and good or bad weather can affect the possibility of identification even when they are seen. The small number of birds recorded at Station Juliet on 18th September was the subject of a special note by the observer (C. I. Griffiths). "Weather on all days, including the 18th, was fine and mostly sunny. The low total of birds seen on the 18th is inexplicable, though they may often have been just out of range away from the ship. When the ship is drifting, groups of birds usually assemble on the water upwind, and sometimes get left behind as the ship moves. When the ship is steaming, more birds are often seen as they make a greater effort to keep up with the ship".

The large numbers of Lesser Black-backed and Black-headed Gulls was remarked upon at Station India from 24th April onwards (R. C. L. Aran). It was about this time that a Naval exercise was taking place 20 to 50 miles South East of the ship. There were also a greater number of land birds than usual. Wind SE to S. .

On 20th March at Station India a large whale was seen near a group of Fulmars (J. Meyes), and at the end of the month Plankton 'Bloom' was reported at the same station (R. M. Ferrie).

The following notes and remarks have been extracted from the 1971 reports, and arranged under the headings of the birds to which they refer.

FULMAR PETRELS. Easily the most common species on all three stations, though Station Juliet noted them as 'conspicuous by

their near absence' from December 18th to 27th.

Notes on recognition. Several observed with plumage scaly, greyish: almost like the blue phase at a distance. Possibly birds-of-the-year.

Notes on behaviour. One landed undamaged on deck at Station India. As it was picked up to be thrown overboard "it vomited at me, but missed!" Besides the usual oily substance there were several large flakes of dried paint (presumably from the ship's hull), a round piece of pink plastic $\frac{1}{2}$ inch across, and several pieces of hen eggshell (largest $\frac{3}{4}$" x $\frac{1}{2}$").

Station India, 29th May, one seen in an oiled condition.

GREAT SHEARWATER. On November 8th, at Station Alpha, 280 were counted while sitting on the water in one large 'raft'. It was remarked that more than usual were seen during that time on station, and even more while on passage to Greenock. While at Juliet (in October) there was an average daily count of 344, with 2,000 recorded on one day (22nd).

Notes on recognition. Brown upper parts, black cap and white 'V' on tail distinctive. Nearly always low gliding with wings held 'down'.

Notes on behaviour. When in large numbers they often assemble on the water in a very close flock. Station Juliet (Sept. 10th to Oct. 2nd) noted them rather noisy at times, making a mewing, almost Lapwing, like note.

SOOTY SHEARWATERS. Sighted almost daily at Station India between July 25th and August 20th.

Notes on recognition. Flight somewhat faster, rather less gliding and often rather higher than the Great Shearwater.

Notes on behaviour. At Station India one bird was observed diving almost horizontally into oncoming waves, being immersed for 2 or 3 seconds at a time. Later in the year (November) at the same place one bird was seen to dive twice, and on each occasion was immersed for fully five seconds.

MANX SHEARWATER. Observed almost daily at Station India 25th July to 20th August. 50 were observed on one occasion (11th) at sunset some way astern on a flat calm sea. One seen at India as late as 6th November.

Notes on recognition. Almost invariably seen at some distance, when it appears to glide high to about 30 feet or so with the wings 'on edge', then down to the waves where it gives a few wing beats. A little further on it again soars up in the air and then back down. Generally very fast and direct showing sometimes white, sometimes black.

Notes on behaviour. Seen diving amongst Pilot Whales and Dolphins at Station India on the 7th August and again on the 9th, and often in company with them on other occasions.

WILSON'S STORM-PETREL. Several observed almost daily at Station Juliet between September 10th and October 2nd, though

some of the earlier counts of these birds may have been exaggerated. (See Leach's Petrel below.)

Notes on recognition. Yellow webs can often be seen if the bird is within about 15 yards; the feet can be seen projecting beyond the tail when the bird is within about 50 yards. A bird on 23rd September (Station Juliet) had the outermost one or two primaries pure white, giving it a most unusual appearance.

Notes on behaviour. Often 'walk' on the water with wings outstretched, sometimes for several seconds. Tend to follow close behind the ship when steaming, flying up to about 10-15 feet before veering off to drop astern again.

BRITISH STORM PETREL. *Notes on recognition.* White underwing definitely seen; upperparts look quite black compared to Wilson's. At very close range a thin white wingbar can be seen.

Notes on behaviour. Flies briefly then glides a short distance, sometimes 'banking' like a Fulmar. Feet only occasionally just touch the water.

LEACH'S STORM-PETREL. One found onboard at Station Juliet on 30th September. Close examination of this bird and subsequent observations suggests that some of the Wilson's Storm-Petrels counted at this time may have been Leach's.

Notes on recognition. Slightly larger with heavier wing-beats than Wilson's.

Notes on behaviour. Often glides quickly to and fro above the wave crests and lengthwise along the waves. The 'oft-mentioned "bounding flight"' was not observed on the one occasion when positive identification was established.

GANNETS. White, with black wing tips and yellow heads. Sweeping flight pattern. One bird at Station Juliet (September) seen diving once or twice some way astern. Gannets are not seen diving very often while ships are on station.

GREAT SKUA. Not observed at Alpha or India during the winter months, but otherwise a regular visitor to all three stations.

Notes on recognition. Observed at Station India in August to vary considerably in colour from very dark dingy brown to bright chestnut; and a variation in the intensity of the white flashes.

Notes on behaviour. Seen chasing Fulmars on two occasions at Juliet in September. Also (in the same report) occasionally seen chasing Great and Sooty Shearwaters. One 'particularly fierce individual' seen chasing almost everything in sight including a Lesser Black-backed Gull (again at Juliet) in August. Several reports mentioned instances of molesting Kittiwakes, and on one occasion (Station India in November) a Kittiwake was reported to have been killed by a Great Skua. 5th June, one seen attacking sub-adult Gannet (Station India).

POMARINE SKUA. On two occasions at Station Juliet (September/October) Pomarine Skuas were seen in mixed groups with the other two species of smaller Skua. The immature Pom-

arines in these mixed groups were indistinguishable from immature Arctic Skuas.

ARCTIC SKUA. Of the 103 birds reported at Juliet in October, 100 were recorded on one day (7th).

Notes on recognition. The immature of this species (mixed with immature Pomarines) observed at Station Juliet had only a little white on the belly, but most were just heavily barred overall and lacking any tail projection. Some were thought to be very young as they differed appreciably in size from the adults. One or two adults were seen without the tail projections.

Notes on behaviour. Often reported harrying Lesser Black-backed Gulls (one while sitting on the water), but more usually they seem to harry Terns and the smaller species of Gull. One was observed (India, 30th July) being mobbed by Long-tailed Skua.

LONG-TAILED SKUA. *Notes on recognition.* When the elongated tail feathers are missing can be recognised by olive-brown upper parts, white belly, no breast-band, and slighter appearance than other Skuas. In the distance its silhouette can be mistaken for that of a Kittiwake.

Notes on behaviour. Very seldom seen on the water. When in mixed groups with other Skuas they may assist in harrying other birds, but not seen to do so on their own account.

COMMON GULL. One or two birds were observed almost daily at Station India between July 25th and August 20th.

Notes on recognition. About Kittiwake size but the slightly heavier build makes it look larger. Pale yellow bill and green legs observed.

Notes on behaviour. Two birds at Station India (30th and 31st July) were jostling for position on the Jackstaff. An Arctic Tern joined the competition on the second day and emerged a clear winner!

LESSER BLACK-BACKED GULL. A fairly heavy concentration of 80 birds was reported on 24th April at Station India. And the observer remarked that more Lesser Black-backed Gulls and Black-headed Gulls were seen during that period on station than ever before.

Notes on recognition. Station India (25th July to 20th August) noted that the birds seen on the 19th and 20th August belonged to the Scandinavian race *L.f. fuscus* – adults with yellow legs but *black* backs. Others observed during the trip were all *L.f. graellsii*. At Juliet (5th to 30th June) all adults were observed to have slate grey backs – *L.f. graellsii*; no *L.f. fuscus* seen.

Notes on behaviour. Station Juliet (22nd September) had one bird land on deck, very weak but apparently uninjured. It was easily caught and fed on salmon sandwiches! Flew off and joined two others later. On 7th June at Station India one was observed with a ring on its right leg. The next day two of the same species (an adult and an immature bird) were seen attacking an Arctic Skua.

GREAT BLACK GULL. Hardly a period at any of the three stations when Great Black-backed Gulls were not sighted. A high proportion of immature birds – more so, apparently, than in previous years.

Notes on recognition. 4th year birds have very little of the immature plumage remaining: the mantle mostly black, head and breast nearly white.

Notes on behaviour. Several times reported (Station Juliet) chasing Kittiwakes Skua-fashion.

GLAUCOUS GULL. Most sightings were recorded from Station Alpha.

ICELAND GULL. Almost all sightings were at Station Alpha. Exceptions to this were in June at Station India when three separate single bird sightings were reported.

Notes on recognition. It was noted that while sitting on the water the wings project 2-3 inches beyond the tail. Also noted (at Station India) red-eye ring; terminal quarter to third of bill black, otherwise greyish; bill NOT heavy. Legs flesh colour; upper parts, head, neck and primaries pure white; rest of wings and tail with brown markings.

KITTIWAKES. As usual by far the commonest Gull – there were sightings from every station for each period that reporting took place.

Notes on behaviour. Tend to keep close together in the air and sit in fairly tight groups on the water. At Station Juliet (6th January 1972) a very large flock totalling about 500 birds was observed which frequently split into two, sometimes three, flocks on the water, the birds as usual keeping very close together.

Station India noted adults feeding during moonlit nights. E.g. at 0200 3rd December they were noted diving from a height of several feet only a few yards from the ship's well-deck.

Several birds were reported oiled: 18th December, Station Juliet, one adult and one immature were oiled. This did not appear to affect their flight, but the adult when on the water frequently had its wings outspread. Another oiled adult was sighted on the 29th. On 5th and 6th January (1972) one adult very badly oiled was frequently on deck – quite weak and flying with difficulty, but still able to avoid capture. At Station India, 17th and 18th September, one bird was also reported oiled.

Station India reported Kittiwakes on deck (probably crash landed!) on two successive trips. Another, on 2nd January (1972) was found dead onboard.

SABINE'S GULL. *Notes on recognition.* The hood looked almost black, rather than grey, primaries black; white wing triangles; clearly well forked tail (Station Juliet in June). Nearly black hood and clearly seen forked tail (Station India in July).

Notes on behaviour. Seen briefly chasing two Terns – Station Juliet in June.

BLACK-HEADED GULL. Observed at Station Alpha on

17th March in summer plumage. Head dark chocolate brown, white nape and neck, white leading edges to wings, black trailing edges. Legs and bill very dark red.

At Station India, in March, one was observed being chased by Fulmars. Later on in August, one bird was on deck for five successive days but with no sign of injury. In May a group of young Kittiwakes were seen attacking a Black-headed Gull.

ARCTIC TERN. The greatest number were observed at Station India in July. The birds were generally heading West of S.W. in groups or singly. This movement was clearly at its maximum on the 11th when a flock of 200 was seen followed by ones and twos.

Notes on recognition. At Station Juliet in August all birds had white foreheads and dark, or black, bills. The primaries of the two seen just overhead on the 18th were definitely semi-transparent. Mantle and upper wings pale silver grey, tail white. Underparts white not dusky. Of the large flock observed from Station India on the 11th August, about 13% were immature, with black bills and legs, white forehead, clear white underparts, tails not fully grown. The all-red bill was observed with many adults – these latter had duskly underparts.

Notes on behaviour. The larger groups noted above at Station India were mostly in association with Dolphins and Pilot Whales. One bird at Station Juliet (16th September) first appeared floating on a piece of driftwood. Later it came on deck, though it had great difficulty landing in force 6 winds.

LITTLE AUK. Little Auks usually only seen when steaming; when the ship is stopped all Auks (spp) are virtually impossible to see on the water except on occasions when they are very close. One seen at Station Juliet in December flew very close to the ship around the bow: black above, white below, smaller than a Puffin and without the large head appearance; fast wingbeats.

At Station Alpha in November a Little Auk settled within two yards of the ship.

GUILLEMOTS. When further than about half a mile from the ship they are difficult to identify. One couple of Guillemots at Station India (in June) provided an unusually close view (100 yards or less) astern.

PUFFINS. All sightings were from Station India.

Notes on recognition. Puffins, when reasonably close, show 'large headed' appearance in flight.

GREY PHALAROPE. Of the two sightings at Station India (24th May and 8th June) the following observations were made: both birds were in breeding plumage: the second one circled (2100 GMT) calling 'whit' frequently.

O.W.S. LANDBIRD OBSERVATIONS – 1970/1971
LANDBIRD TABLES B

Summarised by Captain G. S. Tuck, D.S.O., R.N.

Reports on landbirds have been received from the following R.N.B.W.S. observers:

Station Alpha: Messrs Aran, Dyer, Philp, Ogle.
Station India: Messrs Aran, Ferrie, Griffiths, John, Mayes.
Station Juliet: Messrs Aran, Griffiths, Mayes, Rogers.

Only species positively identified while on station are included. Where a marked migration is observed on passage to and from station this is included and occurred twice in 1971. On 27th April while still within the station limit at INDIA in position 59°12′N, 18°43′W, 15 Avocets flew past the ship in formation, course 115°. This position was some 300 miles south of Iceland and 450 miles WNW from Scotland. On 26th October on passage to JULIET in 55°24′N, 07°16′W, 220 Redwings and 40 Skylarks were seen, course N to S.

Symbols used. S = landed on ship. X = Examination form completed. dd = died onboard. Scientific titles are shown only on the first occasion of the same species appearing on an observer's report.

General. Small landbirds on the wing at sea are always difficult to identify, and are rarely seen in flocks from which a migration route can be estimated. The tables show that the majority of those identified have landed onboard in ones or twos. When exhausted every effort is made to place them in shelter cages and provide suitable food. In some cases they are kept in shelter until the ship returns to base at Greenock.

EXTRACTS FROM METEOROLOGICAL REPORTS 1971/1972

From Notes received from Captain N. B. J. Stapleton, R.D.

While accumulation of data on the presence of seabird and landbird species in the oceans is of prime importance the greatest pleasure in birdwatching at sea clearly arises when birds and man come face to face onboard – or so it seems from the majority of reports received in the meteorological log reports. These emanate from seafarers in British Merchant ships, the majority of whom are not as yet members of R.N.B.W.S. A special study of these returns is now being made, and occasion taken to comment and communicate direct with observers concerned. Thereby and through articles kindly published in *The Marine Observer* the standards of reporting and identification are improving noticeably. Many examples however defy positive identification but if these are excluded a total of 110 seabird reports and 68 landbird reports were received over the period 1971 to mid-1972.

OCEAN STATION ALPHA
62°30′N, 33°00′W
300 miles W x S ICELAND

JUNE			
12	1	Turtle Dove (*Streptopelia turtur*)	S. 83 hrs. X. 'Swoop' eaten

OCEAN STATION INDIA
59°N, 19°W
250 miles S ICELAND

SEPT			
1	1	Meadow Pipit (*Anthus pratensis*)	S. dd
6	1	Meadow Pipit	S
	7	Knots (*Calidris canutus*)	Flying around ship
8	1	Sanderling (*Calidris alba*)	Flying round ship
15	1	Wheatear (*Oenanthe oenanthe*)	S
	2	Whinchats (*Saxicola rubetra*)	S
17	1	Dunlin (*Calidris alpina*)	Flying around ship
OCT			
11	1	Snow Bunting (*Plectrophenax nivalis*)	Flying around ship
12	1	Collared Turtle Dove (*Streptopelia decaocto*)	S. Fed on 'Swoop' left ship 25/10
26/29	2	Redwings (*Turdus iliacus*)	S
NOV			
2	1	Dunlin, 1 Redwing,	Gale, E 8-9
	3	Snow Buntings	
	1	Blackbird (*Turdus merula*)	
	1	Waxwing (*Bombycilla garrulus*)	S. 24 hrs.
3	1	Redwing	S
4	1	Snow Bunting	S
5	1	Purple Sandpiper (*Calidris maritima*)	S, caged, released

ANDBIRD TABLE B

OCEAN STATION JULIET
52°30′N, 20°W
360 miles W x S IRELAND

MAY		
22	1 House Martin (*Delichon urbica*)	
23	1 House Martin	S. very weak, dd
JUNE		
2	1 Turtle Dove (*Streptopelia turtur*)	S
3	1 House Martin	S
	1 Turtle Dove	S, very weak. Given shelter, later flew off
4/5	2 House Martins	
JULY		
23	1 Turnstone (*Areneria interpres*)	S. Ate tinned salmon and bread, drank water
24-27	2 Turnstones	S
AUG		
28	2 Phalaropes sp. (*Phalaropus sp*)	near ship on sea
SEPT		
5	1 Turnstone	
6	1 Wheatear (*Oenanthe oenanthe*)	S
	1 Knot (*Calidris canutus*)	S, ate tinned salmon, drank water, released 7/9
9	3 Wheatears	
10-12	1 Merlin (*Falco columbarius*)	S. Caught and ate 2 Wilson's Storm Petrels
OCT		
12	1 Turtle Dove	S, ate steak pie!
21	1 Goshawk (immature) (*Accipiter gentilis*)	S, caught and ate Storm-Petrel
22-23	1 Kestrel (*Falco tinnunculus*)	S, X, caught Storm-Petrel, caged, ate raw steak. released 23/10
24	4+ Snow Buntings seen estimate more onboard	S, chased by Kestrel
24-26	1 Kestrel	S
27	1 Brent Goose (*Branta hernicla*)	
	1 Red-crested Pochard (female), *Netta rufina*)	on sea near ship
	1 Snow Bunting	S
NOV		
26	1 Blackbird	S
	2 Meadow Pipits (*Anthus pratensis*)	S
27	1 Blackbird	S

OCEAN STATION ALPHA
62°30'N, 33°00'W
300 miles W x S ICELAND

MARCH

16	1 Snow Bunting (*Plectrophenax nivalis*)	

MAY

10	1 Meadow Pipit (*Anthus pratensis*)	S, X, dd
13	1 Snow Bunting	S
14	2 Snow Buntings	S
15	1 Wheatear (*Oenanthe oenanthe*)	S
23	1 Snow Bunting	S
25	1 Wheatear	S
26	1 Wheatear	S
27	1 Sanderling (*Calidris alba*)	S
	1 Purple Sandpiper (*Calidris maritima*)	S
29	1 Sanderling	S
	2 Snow Buntings	S
31	2 Sanderlings	S

AUG

20	4 Sanderlings (*Calidris alba*)	
21	1 Sanderling	
	1 Wheatear	
26	2 Grey Phalaropes (*Phalaropus fulicarius*)	
	1 Turnstone	

SEPT

3	1 White-rumped Sandpiper (*Calidris fuscicollis*)	

OCEAN STATION INDIA
59°N, 19°W
250 miles S ICELAND

MARCH

15-16	1 Snow Bunting	S

APRIL

13-14	1 Wheatear	S. Ate seed, drank water
13	1 Chaffinch (*Fringilla coelebs*)	S
18	1 Purple Sandpiper (*Calidris maritima*)	S, X, dd✓
21	1 Snow Bunting	
22	1 Dunlin (*Calidris alpina*)	
23	4 Redshanks (*Tringa totanus*)	
	1 Golden Plover (*Pluvialis apricaria*)	S, X, caged, dd ✓

OCEAN STATION INDIA *continued*

24	4 Golden Plovers	Circled ship
25	1 Redshank	
26	2 Oystercatchers (*Haematopus ostralegus*)	Circled ship, left course East
	1 Redwing	
	1 Dunlin (*Calidris alpina*)	
27	1 Pied Wagtail (*Motacilla alba*)	S
	3 Redwings	S. Ate bird food
	3 Oystercatchers	
	1 Golden Plover	S. Broken wing. Fed
	15 Avocets (*Recurvirostra avocetta*)	Flew very close past in formation from West
	25 Redshanks	
28	1 Redshank	
	6 Skylarks (*Alanda arvensis*)	3, dd. All caught, caged for a night. Fed on 'Magnet' and 'Sluis P2' food
	1 Golden Plover	
	1 Redwing	
29	1 Golden Plover	S

MAY

3	1 Snow Bunting	S. All feeding on
4, 5, 6	3 Snow Buntings	S. 'Magnet' food
	1 Redwing	S
7	1 Snow Bunting	S. Feeding well
8	1 Wheatear	
9	1 Swallow	S
	1 Snow Bunting	S. Feeding well
10	1 Greylag Goose (*Anser anser*)	Very close to ship
	2 Merlins (1m, 1f.) (*Falco columbarius*)	S
11	1 Merlin	
14	1 Collared Dove (*Streptopelia decaocto*)	S
17-24	4 Wheatears	
27	1 Dunlin	
	1 Purple Sandpiper	S. Caught, caged. Released Clyde
29	1 Whimbrel (*Numenius phaeopus*)	
	1 Dunlin	

JUNE

5	1 Whimbrel	
6	1 Knot	S. Caught, caged, released Clyde

AUG

10	1 White Wagtail (*Motacilla alba*)	
19	4 Whimbrels (*Numenius phaeopus*)	Close to ship. Course SE
	1 Dunlin	Close to ship
20	7 Turnstones	Flew past ship

OCEAN STATION INDIA *continued*

SEPT		
15	1 Meadow Pipit (*Anthus pratensis*)	S, dd
	1 Wheatear (*Oenanthe oenanthe*)	S
16	1 Snow Bunting	S, dd
	6 Wheatears	
21	1 Snow Bunting	
25	1 Ringed Plover	Course SE
26	10 Wheatears	S. 24 hrs. No food taken
27	2 Redpolls (*Carduelis flammea*)	
	2 Wheatears	
28	2 Wheatears	S. No food taken
OCT		
1-3	1 Greenland Wheatear	S
	6 Wheatears	S. 1. dd
	2 Redpolls	
	1 White Wagtail	S
	1 Meadow Pipit	S
4-6	4 Wheatears	Flying around ship
NOV		
6-18	4 Starlings (*Sturnus vulgaris*)	S. Fed, took water. 1 dd 21st

OCEAN STATION JULIET
52½°N, 20°W
360 miles W x S IRELAND

JUNE		
5	1 House Martin (*Hirundo urbica*)	
6	1 Dunlin (*Calidris alpina*)	Around ship, then seen dd in sea
	1 Collared Turtle Dove (*Steptopelia decoaocto*)	S. Took passage from 4 June
10	1 Ringed Plover (*Charidrius hiaticula*)	S
12	1 Ringed Plover	Around ship
SEPT		
10	9 Turnstones	Flying South
	1 Grey Heron (*Ardea cinerea*)	
	1 Meadow Pipit (*Anthus pratensis*)	S. dd
11	1 Meadow Pipit	S. dd. very weak
	1 Wheatear	S
14	2 Wheatears	S. One fed on house flies, dd
	1 Whimbrel (*Numerius phaeopus*)	Course South
	1 Grey Heron	Close to ship
16	2 Wheatears	S
	1 Ringed Plover	
	1 Turtle Dove (*Streptopelia turtur*)	S. Fed seed, left on 20th
22	2 Wheatears	S. dd

OCEAN STATION JULIET *continued*

	1 Turtle Dove	S. Fed seed
23	2 Red-breasted Mergansers (*Mergus serrator*)	Circled ship
30	1 Wheatear	S
OCT		
1-3	10 Wheatears	7 S. 4 dd

Note: From Sept. 10 the O.W.S. had no mealworms on board, a principal source of food kept for landbirds, which resulted in species shown dying.

12	1 Merlin	S 1 hour
13	1 Grey Wagtail (*Motacilla cinerea*)	S 1 hour
15	1 Merlin	S 1 hour
18	1 Two-barred Crossbill (*Loxia leucoptera*)	S, X, dd
26	1 Grey Wagtail	S
29	1 Chaffinch	S 24 hrs. Fed 'Swoop', water
28	5 Redwings	1 S
	3 Skylarks	1 S. Fed on seed
	20 + Starlings	S. Fed varied food. 2 caged, released Clyde
	3 Chaffinches	S. Fed on rolled oats. Released Clyde
	7 Siskins (*Cardullis spinus*)	S
	1 Redpoll (*Acanthis flammea*)	

Note: On passage to Juliet 26th Oct. in 55°24'N, 07°16'W, 220 Redwings, 40 Skylarks flying N. to S.

NOV		
1	1 Starling	
6	1 Brambling (*Fringilla montifringilla*)	
	1 Redwing	S, caged, released Clyde 23rd Nov.

Space in this volume does not admit of describing in detail the many peculiar circumstances in which birds appeared onboard and were cared for. Most examples amongst seabirds were of Tropic-birds, Boobies and Sooty Terns, with Storm-Petrels hard to identify. On one occasion three Red-footed Boobies landed simultaneously on the deck of one ship, one at the feet of the Third Mate. An unusual and diverting account was received of the discovery in the early hours of one morning of a Black-browed Albatross completely blocking a narrow gangway on the lower deck. The Chief Officer volunteered the task of launching, cautiously covering the bird's head with a sack. On another occasion three Snowy Egrets remained onboard a ship for 4 days over a distance of 400 miles. Who would not have wished to be present when a Snowy Owl was seen chasing a Guillemot directly towards a ship, the Owl perching and remaining onboard for 4 hours?

Finally Captain J. H. Burn of M.V. *Hertford* reported this tit-bit: 25th December, 1971, 13°15'S, 96°10'W. 'The lookout came down and asked me if I would like some Christmas Turkey "on the wing". He had been almost hit by a Red-tailed Tropic-bird which landed on the bridge wing and sat open-billed on approach. A flag was placed lightly over it and launching completed successfully.'

[Note: Positive identified landbirds from these reports have been included in the Landbirds at Sea Table, indicated by the word MET. Editor.]

REPORTS OF LANDBIRDS AT SEA

Summarised by Captain G. S. Tuck, D.S.O., R.N.

The table includes only positively identified species occurring in sea passage reports received from R.N.B.W.S. members during 1971 and 1972 (up to 15th October 1972).

In addition reports included in the meteorological returns of British merchant ships, which are received by R.N.B.W.S., and are considered accurate, are also included for the first time. Evaluation of reports of the great variety of species of landbirds which settle on ships all over the world can be helped tremendously, where observers are uncertain as to identity, if drawings and colour patterns are shown, arrows indicating colour pointing to the particular parts of plumage. Examples: colour pattern, size and character of bill, e.g., seed-eating, insect-eating, etc; colour of bill, legs and toes, especially valuable in identifying Egrets. Our best observers, and I mention Captains D. M. Simpson and P. W. G. Chilman, provide excellent drawings coloured in crayons on their report sheets.

During the period over 200 separate observations have been received from members and 65 from meteorological returns, not all capable of positive identification.

LANDBIRDS AT SEA

NORTH PACIFIC – EAST OF 180° LONGITUDE

			1970	
M.V. 'Laganbank'. MET	8/10 Oct	6°55′N, 95°W	50 Cliff Swallows *Petrochelidon pyrrhonota*	S, and close to ship catching copra bugs
			1971	
S.S. 'Hemicardium'. MET	21 Nov	26°28′N, 132°50′W	3 Snowy Egrets, *Egretta thula*	S 4 days from 1000 miles from L. California to 400 miles from Hawaiian Islands

PERSIAN GULF – ARABIAN SEA

			1971	
M.V. 'Tabaristan'. MET	4 Sept	18°48′N, 58°28′E	1 Hoopoe, *Upupa epops*	S
Capt. P. W. G. Chilman	2 Oct	09°04′N, 53°24′E	1 Desert Wheatear, *Oenanthe deserti*	S
		09°04′N, 53°24′E	1 Little Crake, *Porzana parva*	female. S
		09°34′N, 53°41′E	1 Red-backed Shrike, *Lanius collorio*	S
		10°55′N, 54°36′E	1 Lesser Kestrel, *Falco naumanni*	S
	3 Oct	17°41′N, 57°56′E	15 Black-winged Stilts *Himantopus himantopus*	d. NNE
	4 Oct	22°12′N, 59°59′E	1 Egyptian Nightjar, *Caprimulgus aegyptus*	S
			1 Red-backed Shrike	S
	5 Oct	26°18′N, 55°12′E	1 White Wagtail, *Motacilla alba*	S
	10 Oct	27°35′N, 51°22′E	4 Swallows, *Hirundo rustica*	S
	12 Oct	21°45′N, 59°45′E	1 Yellow Wagtail, *Motacilla flava*	S
	13 Oct	15°55′N, 56°47′E	2 Swallows, *Hirundo rustica*	S
			1 Yellow Wagtail, *Motacilla flava*	S
		14°06′N, 55°54′E	1 Swallow	S

INDIAN OCEAN

			1971	
M.V. 'Achilles'. MET	15 Dec	26°42′S, 43°18′E	1 Red-necked Falcon, *Falco chiquera*	S
Persian Gulf to U.S.A.	16 Oct	02°25′S, 47°44′E	1 Turtle Dove, *Streptopelia turtur*	S
Capt. P. W. G. Chilman				

CHINA SEAS – PHILIPPINES AREAS

			1971	
Haipong to Hakaka	23 April	20°18′N, 108°20′E	1 Black Drongo, *Dicrurus macrocercus*	S
Capt. D. M. Simpson	24 April	Hainan Str. 23°10′N, 117°40′E	1 Sanderling, *Calidris alba*	S. 2 days
			1 Arctic Warbler *Phyllac sopus borealis*	S
			1 Paradise Flycatcher *Terpisphane atrocaudata*	S
			1972	
Japan to North Borneo	7 Mar	26°52′N, 128°35′E	1 Tree Sparrow, *Passer montanus*	S
Capt. D. M. Simpson	31 Mar	33°02′N, 136°52′E 34°N, 138°58′E	2 Barn Swallows, *Hirundo rustica*	
Japan to Hong Kong	11 April	31°20′N, 131°33′E	1 Black-crowned Night Heron *Nycticorax nycticorax*	S
Capt. D. M. Simpson	14 April	22°05′N, 116°58′E	6 Barn Swallows 100 miles off China Coast	S
			1 Little Bunting, *Emberiga pasilla*	S
Hong Kong to North Borneo	21 April	13°20′N, 118°17′E	2 Barn Swallows, 100 miles off Buruanga	S
North Borneo to Japan	27 April	9°40′N, 119°39′E	3 Eastern Blue-headed Wagtails, *Motacilla flava simillina*	S
Capt. D. M. Simpson	28 April	14°16′N, 119°54′E	1 Eastern Blue-headed Wagtail	S
			1 Brown Shriko *Lanius cristatus cristatus*	S
	29 April	19°45′N, 120°48′E	1 Grey Wagtail *Motacilla cinerea*	S
			1 Barn Swallow	
	30 April	22°54′N, 121°36′E	1 Brown Shrike	S
			1 Grey Wagtail	S
			4 Barn Swallows	d. NE
			1 Cattle Egret, *Ardeola ibis*	d. NE
			11 Domestic Pigeons	Blue-eyed type, all ringed, no numbers seen

	1 May	27°40′N, 125°E	1 Grey Wagtail	S
		28°15′N, 124°28′E	1 Mongolia Plover *Charadrius Mongolus*	S
	2 May	31°50′N, 128°36′E	1 Eastern Grey Heron *Ardea cinerea*,	d. NE
	24 May	30°10′N, 126°15′E	1 Common Sandpiper, *Tringa hypoleucus*	S
			1 Barn Swallow	
Sea of Japan Capt. D. M. Simpson	2 June	37°N, 135°40′E	1 Arctic Warbler *Phylloscopus borealis*	S
			1 Streaked Grasshopper Warbler, *Locustella lanceolata*	S, killed later by Hobby
		37°N, 135°40′E	1 Rufous Turtle Dove *Streptopelia orientalis*	S
			1 Hobby, *Falco subbuteo*	S. ds., killed warbler
	3 June	34°53′N, 131°33′E	6 Von Schrenk's Reed Warblers, *Acrocephalus bistrigiceps*	S
North Borneo to Japan Capt. D. M. Simpson	4 July	24°12′N, 123°09′E	1 Ruddy Kingfisher, *Halcyon coromanda*	S
Japan to North Borneo	17 Aug	18°50′N, 119°20′E	1 Grey Wagtail	S
Capt. D. M. Simpson	10 Sept	23°N, 130°30′E	1 Blue Rock Thrush, *Monticola solitarius*	S 5 days, 1500 miles
	12 Sept	15°10′N, 125°34′E	1 Japanese Brown Shrike *Lanius cristatus superciliosus*	S
			2 Barn Swallows, *Hirundo rustica*	S
North Borneo to Japan Capt. D. M. Simpson	20 Sept	15°50′N, 119°40′E	1 Middendorf's Grasshopper Warbler *Locustella ochotensis*	S
	30 Sept	15°50′N, 119°40′E	6 Barn Swallows	
			1 Tree Sparrow	
			1 Grey Wagtail	
	22 Sept	24°55′N, 122°06′E	2 Tree Sparrows	
			8 Barn Swallows	
			6 Racing Pigeons	2 caught. Bird one Rings: 72.0416 and 72.685. Bird two Rings: 033859 and 72.3859
	23 Sept	29°24′N, 125°33′E	Several Grey Wagtails	S
			1 Paradise Flycatcher, *Terpsiphone atrocaudata*	
			1 Siberian Bluetail, *Erethaeus cyanurus*	S
Japan to Hong Kong Capt. D. M. Simpson	7 Oct	28°40′N, 123°45′E	1 Brambling, *Fringilla montifringilla*	S
			2 Brown Flycatchers, *Musicapa latriostris*	S
			2 Large White-rumped Swifts, *Apus pacificus*	d. SW
			2 Grey Wagtails	S
			1 Indian Tree Pipit, *Anthus hodgsoni*	S
			1 Paradise Flycatcher	

TASMAN SEA

			1972	
M.V. 'Hertford'. MET	13 Mar	38°30′S, 148°23′E	1 White-faced Heron, *Ardea novaehollandiae*	S. Well out at sea chased onboard by Arctic Skuas

LANDBIRDS AT SEA

NORTH ATLANTIC – EAST OF 30°W

			1971	
M.V. 'Benlawers'. MET	10 Mar	37°48′N, 12°06′W	1 Hoopoe, *Upupa epops*	S
S.S. 'Hyala'. MET	11 April	48°N, 17°W	1 Hoopoe, *Upupa epops*	S
S.S. 'Devon'. MET	15 May	36°N, 5°W	Several Woodchat Shrikes, *Lanius senator*	S. Killed smaller birds onboard
M.V. 'Hector'. MET	30 Aug	17°20′N, 17°50′W	1 Hoopoe, *Upupa epops*	S
U.K. to Persian Gulf	14 Sept	17°15′N, 17°55′W	13 Turtle Doves, *Streptopelia turtur*	S
Capt. P. W. G. Chilman		15°18′N, 17°54′W	1 Pied Flycatcher, *Ficedula hypoleuca*	S
		14°52′N, 17°54′W	4 Turtle Doves	S
	15 Sept	09°16′N, 16°37′W	4 Turtle Doves	S
	22 Sept	28°40′N, 13°43′E	1 Swallow, *Hirundo rustica*	
M.V. 'Glenalmond'. MET	17 Sept	13°40′N, 18°W	4 Turtle Doves	S
U.K. to Izmer	5 Oct	44°50′N, 08°15′W	1 Kentish Plover *Charadrius alexandrinus*	S
Lt. T. J. Dempster				
M.V. 'Dukallow'. MET	10 Oct	7°N, 21°38′W	2 Red-necked Falcons *Falco chicquera*	S. Well out at sea
Durban to Las Palmas	12 Oct	10°58′N, 17°15′W	1 Swallow, *Hirundo rustica*	
Capt. K. Salwegter	13 Oct	15°44′N, 17°40′W	1 Black Redstart, *Phoenicurus ochruros*	S
U.K. to Bay of Biscay	24/25 Oct	46°20′N, 08°W	1 Black Redstart *Phoenicurus ochruros*	S. 2 days
Capt. G. H. Selby Smith				
M.V. 'Fremantle Star'. MET	24 Oct	32°24′N, 13°42′W	1 Common Redstart *Phoenicurus phoenicurus*	S
M.V. 'Devon City'. MET	25 Oct	21°54′N, 17°30′W	Several Red-breasted Flycatchers, *Ficedula parva*	S
	25 Oct	8°16′N, 16°47′W	1 Turtle Dove	S
Capt. P. W. G. Chilman	31 Oct	04°21′N, 24°08′W	3 Swallows, *Hirundo rustica*	S
			1 House Martin, *Delichon urbica*	S
			1972	
H.M.Y. 'Britannia'	2 Jan	26°45′N, 17°40′W	1 Domestic Pigeon	S. Ring G987
Holland to U.S.A.	4 Sept	Just north of Azores	1 Grey Heron, *Ardea cinerea*	S
Radio Officer E. L. Marchant				

NORTH ATLANTIC – WEST OF 30°W

			1970	
Venezuela to Massachusetts	20 May	40°11′N, 71°10′W	1 Towhee *Pipilo erythropthalmus*	S
and return			1 Evening Grosbeak *Hesperiphona vespertina*	S
Capt. P. W. G. Chilman			1 Blue Jay, *Cyanocitta cristata*	S
			1 Ipswich Sparrow, *Passerculus princeps*	S
	22 May	38°24′N, 70°40′W	1 Eastern Kingbird, *Tyrannus tyrannus*	
	23 May	34°03′N, 69°48′W	1 Nighthawk, *Chordeiles minor*	S
Lagos to Curacoa	22 Sept	04°40′N, 49°16′W	1 White-rumped Sandpiper *Erolia fuscicollis*	S
Capt. P. W. G. Chilman		05°05′N, 50°10′W	2 White-rumped Sandpipers	1 S, others passed
	23 Sept	07°03′N, 53°22′W	2 White-rumped Sandpipers, about 22 passed ship	2, S
			4 Ruddy Turnstones *Arenaria interpres morinella*	Flew round ship
	3 Oct	34°47′N, 45°05′W	1 Nighthawk	S
			1971	
Western N. Atlantic	8 April	30°50′N, 63°59′W	1 American Sparrow Hawk *Falco sparverius*	S. Fell in sea
Capt. P. W. G. Chilman	11 April	47°N, 59°43′W	1 Fox Sparrow *Passerella iliaca*	S
	15 April	49°11′N, 66°42′W	3 Purple Finches, *Capodacus purpureus*	S
	16 April	47°22′N, 60°28′W	12 Canada Geese, *Branta canadensis*	Settled in sea
	25 April	22°42′N, 66°32′W	1 Cape May Warbler, *Dendroica tyrina*	S
	26 April	28°34′N, 64°35′W	2 Least Sandpipers, *Erolia minutella*	S
	30 April	47°33′N, 60°28′W	2 Slate-coloured Junco, *Junco hyemalis*	S
M.V. 'Victore'. MET	18 Oct	55°06′N, 45°12′W	2 Snowy Owls, *Nyctea scandiaca*	S. 2 days
Maine, U.S.A. to Venezuela	12/14 Nov	34°10′N, 68°08′W to 20°39′N, 67°05′W	13 Starlings, *Sturnus vulgaris*	S. 3 days
Capt. P. W. G. Chilman				
M.V. 'Booker Venture'. MET	18 Nov	17°25′N, 45°W	1 Grey Heron, *Ardea cinerea*	S. Well out at sea
S.S. 'Potosi'. MET	3 Dec	28°35′N, 71°45′W	1 American Screech Owl, *Otus asia*	S
			1972	
M.V. 'Haparangi'. MET	5 April	36°31′N, 49°10′W	1 Peregrine Falcon, *Falco peregrinus*	S
M.V. 'C. P. Ambassador'. MET	20 April	46°36′N, 52°36′W	1 Snowy Owl, *Nyctea scandiaca*	S
M.V. 'Goestcrest'. MET	21 April	22°40′N, 49°50′W	1 Cardinal Bird, *Richmondena cardinalis*	S. Well out at sea
S.S. 'Bencarvin'. MET	27 April	35°16′N, 37°58′W	1 Little Egret, *Egretta gazetta*	S. Exhausted
Holland to U.S.A.	11 Sept.	30°02′N, 60°54′W	1 White-crowned Sparrow *Lonotrichia leucophrys*	S
Radio Officer E. L. Marchant	12 Sept	28°24′N, 66°54′W	2 White-crowned Sparrows	S

SOUTH ATLANTIC – EAST OF 30°W

			1971	
U.K. to Persian Gulf	20 Sept	16°16′S, 03°25′E	1 Bar-tailed Godwit, *Limosa lapponica*	Circled ship
Capt. P. W. G. Chilman	22 Sept	28°40′S, 13°43′E	1 Swallow, *Hirundo rustica*	S
S.S. 'Titan'. MET	26 Nov	5°40′S, 5°32′W	1 Red-backed Shrike, *Lanius colluris*	S
			1972	
H.M.Y. 'Britannia'	14 April	18°S, 01°W	1 Laughing Dove, *Streptoplia senegalensis*	S. 12 hrs.

CARIBBEAN AREA

			1970	
Capt. P. W. G. Chilman	29 May	14°28′N, 75°14′W	1 Western Kingbird, *Tyrannus verticalis*	S
	25 Sept	11°37′N, 66°32′W	2 Barn Swallows, *Hirundo rustica*	S
		11°54′N, 68°35′W	2 Northern Water Thrush *Sierus noveboransis*	S
Capt. K. Salwegter	7 June	18°08′N, 80°45′W	5 Cattle Egrets, *Ardeola ibis*	Passing
			~~1 Barn Swallow, *Hirundo rustica*~~	
			1 Osprey, *Pandion halietus*	
			1971	
Capt. K. Salwegter	7 Jan	10°50′N, 88°40′W	1 Cattle Egret, *Ardeola ibis*	S
Capt. P. W. G. Chilman	15 Nov	16°35′N, 68°49′W	3 Great Blue Herons, *Ardea herodias*	Passing
			2 Starlings, *Sturnus vulgaris*	S. Assisted passage from 34°10′N, 68°08′W
			1 Barn Swallow, *Hirundo rustica*	

Symbols used. MET = Meteorological ship report. S = landed onboard, period sometimes follows. d followed by direction = direction of departure flight. Scientific titles are omitted when the same species is observed on more than one occasion by a given observer.

SHORT NOTES

SEABIRD COLONIES ON THE ROCKY ISLANDS OF SENTO SHOSHO, 28°48′N, 123°36′E, AND SEKIBO SHO ISLET, 25°55′N, 124°34′E (marked sometimes as Raleigh Rock on British Admiralty Charts). By Captain D. M. Simpson M.N.

On 24th May 1972, when passing through the Sento Shosho islands thousands of Bulwer's Petrels, *Bulweria bulwerii*, were seen close around the islands. I felt sure that the presence of at least 3,000 birds must indicate principal breeding areas, since 10 miles past the islands not a single Bulwer's Petrel was to be seen. Later on 4th July 1972, I directed my ship to within ½ mile of Sekibo Sho Islet which lies some 50 miles east of the Sento Shosho group. The island was densely populated with seabirds. Many hundreds of Blue-faced Boobies, *Sula dactylatra*, sat or stood on the cliff tops, and a flight of 30 were seen offshore, others swimming on the surface. Flying close around the islet some 200 Brown Boobies, *Sula leucogaster*, 1,000 Common Noddies, *Anous stolidus*, and at least 1,000 Brown-winged Terns, *Sterna anaethetus*, were also in view. My observations over the last few years would seem to indicate that these rocks comprise the most important seabird colonies anywhere on the routes between Hong Kong, Manilla and southern Japan.

INDIAN OCEAN. Captain P. J. Rose, M.N., has visited a large breeding colony of Red-billed Tropic-birds, *Phaethon aethereus*, at the north end of ROUND ISLAND.

PERSIAN GULF. Captain K. R. Stobbs reported in 1972 Ospreys, *Pandion haliaetus*, nesting on Quoin Island (2 Ospreys observed later by Mrs Stobbs on Quoin Island on 29th May 1972), also on Khor-al-Quwai, with empty nests on Jazt Quarnain and Jebel Dhana. A huge breeding colony of Socotra Cormorants, *Phalacrocoras nigrogularis*, was also seen on Zarga Island.

OBSERVATIONS OF SEABIRDS 1967–1969

By W. R. P. Bourne and T. J. Dixon
(The Seabird Group, Zoology Department, Aberdeen University)

In the last summary of information on seabirds supplied by R.N.B.W.S. members in *Sea Swallow* 20 it was remarked how the task of analysing records has grown in recent years. This has coincided with the accumulation of growing responsibilities by the

analyst which has enforced first the suspension of the annual review of recent literature which we were attempting to incorporate in the analysis, and then regrettably the report altogether in the last number of *Sea Swallow*. In this report we make up half the backlog of observations, and hope to bring the analysis up to date in the next one.

In the period 1967-1969 we received 400 pages of reports, 255 census sheets, 54 pages of notes, and 41 reports of birds examined in the hand, compared to totals of 630 pages of reports, 160 census sheets and 73 reports of birds examined in the hand in the previous three years. The progressive diversion of recording from the report sheets to the census forms in general represents an improvement in the presentation of data, while the total volume and its quality continue to improve, but it is regrettable that the number of reports of birds examined in the hand had declined, as these are very useful. The accompanying map of records of Leach's Petrels obtained in this way illustrates this well, since it is difficult to obtain such a good idea of the distribution of birds which present such large identification problems as the Storm-petrels without being able to confirm identifications in this way.

The material received has included some interesting items, including observations by Messrs R. de Jong, C. Smeenk and J. Wattel on voyages from Europe via West Africa to the Caribbean: J. O. Brinkley and L. E. Lofgren along the eastern coasts of the Americas: Stephen Chapman from Europe to western South America: J. D. Simon and D. M. Simpson around Australia and north across the little-known north-west Pacific: and Captains P. W. G. Chilman, K. Salwegter and D. Stam, all round the world. Highlights are now generally being reported separately in *Sea Swallow*, but it is also stressed that the steady accumulation of detail concerning the distribution of such species as the Shearwaters, Storm-petrels, Frigate-birds, Boobies and Sooty Tern is also useful, though less easy to present results in an immediately intelligible way.

Our recent silence has in part been because we are working on the problem of how to handle recording at sea more efficiently. In *Sea Swallow* 18 we reported on the steps taken at the 1966 International Ornithological Congress at Oxford to obtain more international collaboration over research on seabirds. Since then the Smithsonian Institution has completed its vast "Pacific Program" for recording natural history observations in the least-known parts of the central North Pacific and handling the bird observations with automatic data-processing methods. More recently Professor Paul Germain and Dr Eric Tull of Moncton University and Dr R. G. B. Brown and Dr David Nettleship of the Canadian Wildlife Service have started to organise further seabird studies including systematic data-recording for mechanical processing by a computer and also censuses of breeding colonies ashore in eastern Canada, while the Seabird Group has completed a survey of breeding seabirds and started a study of birds at sea, financed by the Natural

Environment Research Council, and based at Aberdeen University, to be carried out by us in Britain. In view of the work being carried out by people elsewhere we have not immediately started an additional data-processing programme, but have concentrated on studying detailed bird distribution and factors influencing the reliability of observations in the eastern North Atlantic, together with the increasing impact of modern "civilisation" on the birds.

It would be premature to produce definite conclusions yet, but it may be useful to make some points now. As general bird distribution becomes increasingly well-known the main need is for more methodical recording of routine information, suitable for mechanical data-processing by computers when facilities become available in the future. In particular, it would be useful eventually to be able to record not only bird distributions, but also densities, to discover how birds are distributed at different seasons in different parts of their range. This means making comparable systematic counts at regular intervals in different areas in order to produce consistent results.

In the past sample counts have commonly been made for periods of an hour, a long enough period to provide a fair indication of what birds are present in most areas, but this is not always convenient, and sometimes the number of birds present is so great that counting them for an hour on end may be neither easy nor necessary. In view of this, and since counts of short duration can always be added together whereas longer ones may be difficult to split up, we have agreed with the Canadians to adopt a basic unit of the number of birds seen during ten minutes instead, to provide an indication of the number present in an area, though it is usually a good idea to get several ten-minute counts in each area to provide a good sample of what is present. The results obtained can then be plotted either to show the large-scale distribution of birds along the track followed by a vessel, or the average number of birds present in larger areas. Some sample maps illustrating the distribution of the Auks and Fulmars off Scotland (together with a fuller account of our work) will be found in "Birds" 4:46-49 for March-April 1972 and the Scottish Fisheries Bulletin 37:28-33. By way of a change, we include a map of the distribution of Kittiwakes in November 1970. We need more systematic counts of the numbers of birds seen so that similar maps can be prepared for much larger areas.

It is not very difficult to obtain quantitative counts; all that is required is to record the length of observations (preferably broken up into separate periods of ten minutes) on the current census forms, and then to try to ensure that the birds encountered are recorded systematically. It is not necessary to include every bird that passes, provided that all those that cross the selected field of view are included consistently. If bird concentrations are encountered, resting, feeding, or following another vessel, it may be useful to note them separately. It is usually desirable to exclude birds following the vessel from which observations are made from

systematic counts and just to record the totals at intervals separately, since otherwise their inclusion is liable to cause a serious distortion of the results. If such methods are followed it will soon be found that bird densities vary as well as the limits of their distribution recorded by current methods, often in equally interesting ways.

Apart from the need to obtain more accurate quantitative data on seabird distribution on an international scale, the main recent development has been the increasing recognition of the different threats seabirds have to face in the modern world. The increase in human populations and the improvement in communications and affluence which enable people to move about more freely in much of the world has resulted in increasing disturbance especially to seabird breeding sites, and especially those of such species as Terns nesting along the shore. Oil pollution has been recognised as a hazard to swimming species for a long time, and the growth in oil traffic and increase in offshore drilling is leading to a steady increase in this risk. The new North Sea oilfields so close to our own largest seabird colonies present obvious hazards.

In addition, it is becoming clear that toxic chemical pollution, mainly from organochlorine pesticides and polychlorinated biphenyls but also from heavy metals, notably mercury, is beginning to affect seabirds throughout the world, but especially around the coasts of the more highly industrialised nations. The risks caused by this insidious form of pollution were demonstrated when numerous Guillemots which died around the Irish Sea in the autumn of 1969 were found to contain varying amounts of all sorts of pollutants, but especially PCBs. We have now found them to be much more widespread, and indeed among other things a Glaucous Gull dying of organochlorine poisoning as far afield as Bear Island in the Arctic. There is a particular need to obtain more information, and if possible quantitative data, in order to measure the impact of such hazards in remote places.

REPORTS RECEIVED DURING 1967–1969

During 1967-1969 notes were received from the following 31 observers, hereafter referred to by their initials, in addition to observations from the North Atlantic weather ships discussed by Captain Tuck in *Sea Swallow* 20:7-17 and 21:8-13 and from the meteorological logs of merchant ships which he summarised in *Sea Swallow* 20:21-24 and 21:31-34 –

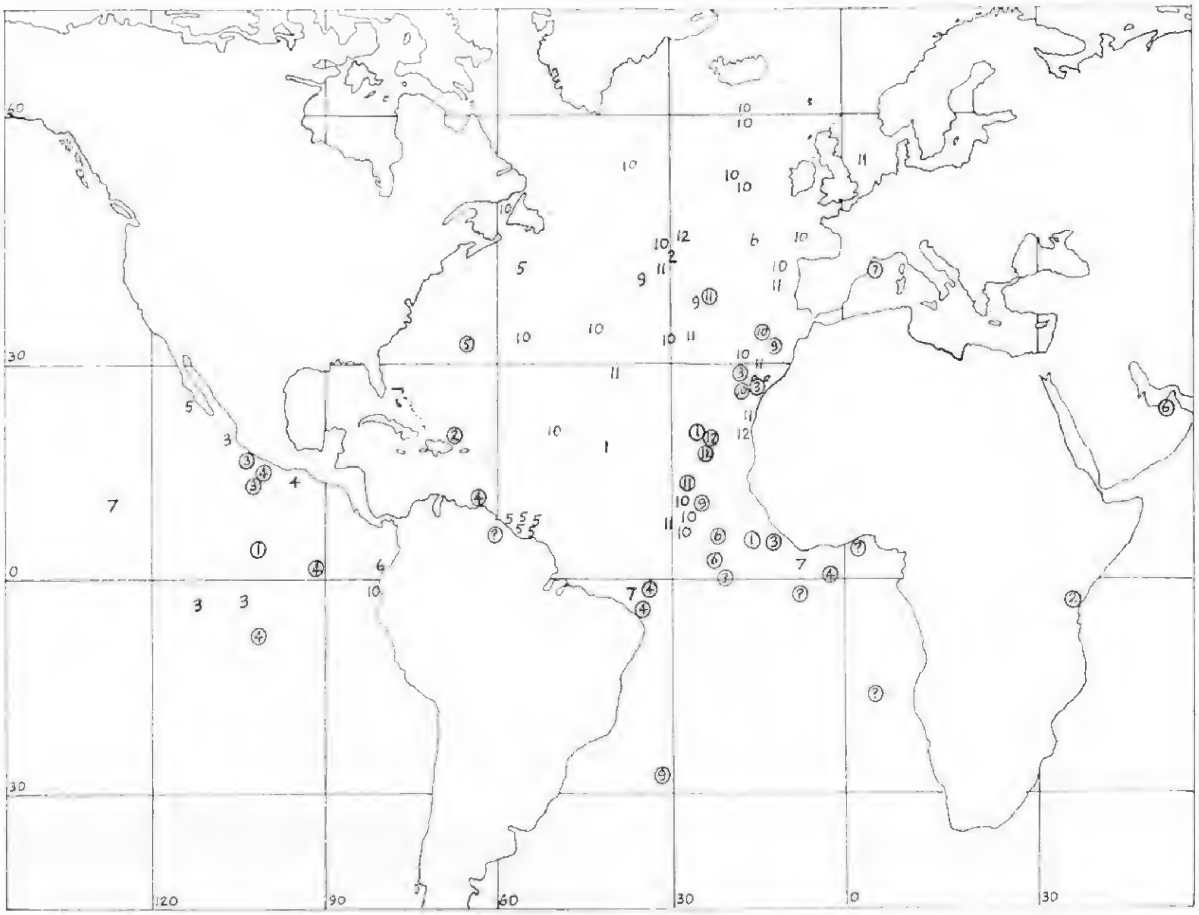
Captain E. F. Aikman, U.K.-St. John's, Newfoundland, Jan., and Le Havre-Montreal, Nov. 1967. 7 pages of reports.

Chief Engineer J. O. Brinkley. Bremen-Buenos Ayres-Montevideo-Liverpool, Oct.-Dec. 1966, Port Talbot-Monrovia and return, Murmansk and return, and Narvik and return twice Apr.-June. Port Etienne to Cap Blanc, Mauretania, June-July; North Atlantic, July; Murmansk-Glasgow-Victoria, Brasil-Ijmuiden, Holland, July-Sep.; Sept Iles, Quebec-Ijmuiden-

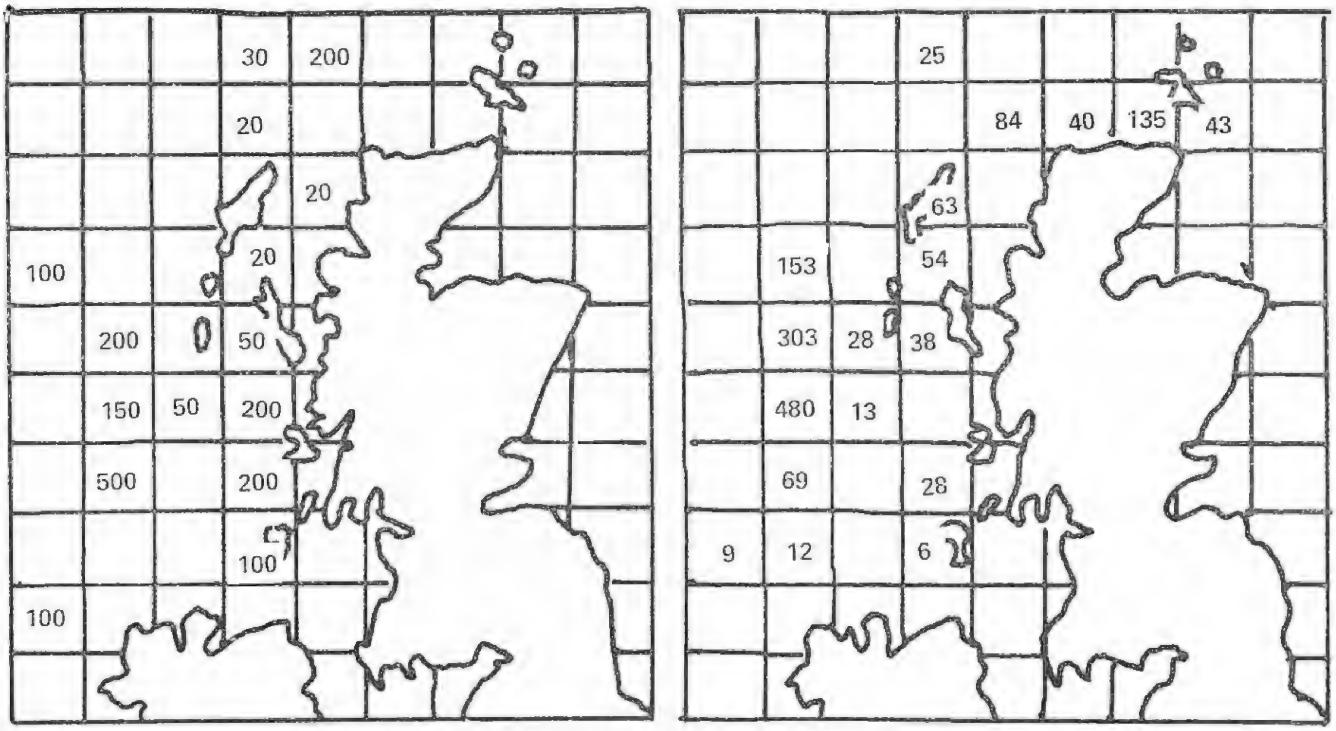
REPORTS OF BIRDS EXAMINED IN THE HAND

Species	*Observer*	*Date*	*Place*	*Sea temp. C*	*Length m.m*	*Wing-span*	*Notes*
Herald (Trinidade) Petrel	J. Jenkins	16/17.7.66	Nukualufa, Tonga	23.3°	352	885	Pale phase
Soft-plumaged Petrel	P. B. Rowe	25.8.68	25°15′S, 10°10′E	18°	380	940	Pale phase
Black-winged Petrel	J. Jenkins	5.12.67	35°19′S, 175°20′E	21°	—	—	—
Black-winged Petrel	J. Jenkins	28.11.67	19°30′S, 174°26′W	25°	286	712	—
Bulwer's Petrel	**Atlantis II*	21.8.65	25°42′N, 127°26′E	28.6°	265	650	—
Wedge-tailed Shearwater	J. L. Lees	16.3.66	04°40′S, 115°W	27.5°	400	1020	Pale phase
Sooty Shearwater	S. E. Chapman	14/15.5.67	ca. 7°S, 81°W	17.5°	—	—	—
Sooty Shearwater	S. E. Chapman	15.5.67	ca. 7°S, 81°W	17.5°	—	—	—
Audubon's Shearwater	J. L. Lees	20.3.66	10°30′S, 140°W	30°	290	600	—
Audubon's Shearwater	J. Jenkins	4.9.67	19°28′S, 174°31′W	26.5°	310	638	Wing moult
Wilson's Storm-petrel	W. C. W. Price	12.4.67	19°40′S, 35°31′E	28.9°	170	340	—
Wilson's Storm-petrel	J. O. Brinkley	5.5.67	08°N, 14°30′W	29°	200	355	27g; wing, 150
(*storm-petrel sp.*)	N. R. Messinger	10.1.69	39°02′N, 12°25′W	16°	154	460	Wing 150
Leach's Storm-petrel	J. L. Lees	14.3.66	03°S, 109°W	28°	180	440	—
Leach's Storm-petrel	J. L. Lees	16.3.66	04°10′S, 112°30′W	27.5°	190	440	—
Leach's Storm-petrel	J. O. Brinkley	8.10.66	41°15′N, 10°45′W	23.5°	190	450	40g.
Leach's Storm-petrel	J. O. Brinkley	8.10.66	29°30′N, 19°W	24°	195	450	40g.
Leach's Storm-petrel	J. O. Brinkley	14.10.66	09°N, 28°W	28°	200	450	39g.
Leach's Storm-petrel	J. O. Brinkley	15.10.66	09°N, 28°W	28°	190	450	37g.
Leach's Storm-petrel	J. O. Brinkley	15.10.66	09°N, 28°W	28°	200	500	39g.
Leach's Storm-petrel	P. W. G. Chilman	19.12.66	44°40′N, 29°42′W	16°	197	475	—
Leach's Storm-petrel	P. K. Kinnear	25.10.68	58°54′N, 19°18′W	10.3°	202	—	—
Leach's Storm-petrel	J. O. Brinkley	15.11.68	28°40′N, 14°55′W	23°	202	480	34g.
Leach's Storm-petrel	J. O. Brinkley	17.11.68	40°10′N, 10°40′W	18°	190	480	35g.
Leach's Storm-petrel	P. W. G. Chilman	15.7.69	00°32′N, 08°39′W	28°	185	450	Wing moult
Galapagos Storm-petrel	S. E. Chapman	26.6.67	01°02′N, 80°50′W	26°	—	—	Wing 117
Galapagos Storm-petrel	S. E. Chapman	2.2.68	18°30′S, 72°02′W	24.2°	—	—	Wing 125
Hornby's Storm-petrel	S. E. Chapman	14.10.67	01°45′S, 81°10′W	21°	—	—	—
Matsudaira's Storm-petrel	**Atlantis II*	27.7.65	16°06′S, 118°03′E	25.6°	233	520	—
White-tailed Tropic-bird	**Atlantis II*	27.7.65	16°06′S, 118°03′E	25.6°	750	—	Race *fulvus*
Red-footed Booby	J. L. Lees	25.3.66	17°28′S, 149°37′W	28°	—	—	—
Red-footed Booby	J. Jenkins	27.12.67	20°15′S, 175°08′W	29°	—	—	—
(Sooty Tern?)	J. L. Lees	20.3.66	10°30′S, 140°W	30°	410	860	—
Sooty Tern, juv.	W. C. W. Price	27.3.67	19°40′S, 35°31′E	28.9°	350	660	—
Sooty Tern	P. W. G. Chilman	29.6.67	08°43′S, 47°55′E	26°	426	840	—
Sooty Tern (imm.?)	W. C. W. Price	16.5.69	21°50′S, 53°28′E	27.8°	390	750	In moult?
Sooty Tern	W. C. W. Price	19.5.69	19°39′S, 57°53′E	27.8°	355	840	—
Brown-winged Tern	W. C. W. Price	12.2.67	19°40′S, 35°31′E	30°	305	610	—
Brown-winged Tern	P. W. G. Chilman	1.11.68	05°52′N, 81°18′E	29°	270	705	—
Crested Tern, juv.	W. C. W. Price	17.9.68	Darwin, Australia	27.8°	360	540	—
Black-headed Gull	P. W. G. Chilman	24.1.69	29°04′N, 48°11′E	27.5°	402	930	—

* *Observers:* M. Palmieri, R. Pocklington and P. R. Willis



Map 1
Leach's Storm-Petrel – Some Records of Birds Examined in the Hand
Figures show position and month. Plain figures = R.N.B.W.S. reports; circled figures = museum reports.
Notice comparatively easterly trend in autumn and westerly trend in spring in Atlantic.
Two records in Indian Ocean discussed in *Ibis* 112:260.



Map A — Distribution of Kittiwakes of North-West Scotland – November 1970 — Map B
Map 2
Records of cruise of Fishery Research Vessel *Explorer*
Map A shows max. number coming to travel when hauled
Map B shows av. number per hour while under way in each 1° x ½° square

Port Etienne-Birkenhead, Nov. 1967; North Atlantic, May 1968; Sept Iles-Port Talbot-Port Etienne, May; Narvik-U.K., Aug. 1969. 3 reports, 20 census sheets.

Mr S. E. Chapman. Panama-Chile, Dec.-Jan. 1966-7; Liverpool-Caribbean-Chile and return to Rotterdam, Apr-July; Liverpool-Chile and return via Halifax, Aug.-Nov.; Liverpool-St. John's-Chile, Dec. 1967-Feb. 1968; west coast of South America, Apr.-Sept. 1968. 54 reports, 4 census sheets.

Mr N. G. Cheshire. Swansea-Curacao-West Africa, June-Aug. 1963. 7 census sheets.

Captain P. W. G. Chilman. Caribbean-Hong Kong-Singapore-Cape of Good Hope-Caribbean, Sept.-Dec. 1965; Holland-Baltic-Caribbean-Liverpool, June-Sept; 2 voyages eastern U.S.A.-Caribbean and return, Oct.-Nov.; Caribbean-Baltic and return, Nov.-Dec. 1966; three voyages eastern U.S.A.-Caribbean and return, Jan.-Feb.; Caribbean-Norway-Dublin, Feb.-May; Singapore-Persian Gulf to Durban and return, June-July; Persian Gulf-Geelong, SE Australia and return, July-Aug.; Persian Gulf-Buenos Ayres-West Africa-Caribbean, Sept.-Oct.; Caribbean-Japan-Persian Gulf-Cape of Good Hope-Liverpool, Nov. 1967-Jan. 1968; Hamburg-Caribbean to eastern U.S.A. and return, May-June; Caribbean-West Africa and return, June; Caribbean-Rotterdam and return, July-Aug.; Persian Gulf and Rea Sea, Oct.; Persian Gulf-Singapore, Oct.-Nov.; Persian Gulf-Mauritius-Dar es Salaam-Persian Gulf, Nov.-Dec.; two voyages Persian Gulf-Singapore and return, Dec. 1968-Feb. 1969; Rotterdam-West Africa, June-July 1969. 123 census sheets.

Lt. Cdr. J. A. Donaldson. North Atlantic, Apr.-Nov. 1966. 4 reports.

Lt. Cdr. T. Emanuel. Plymouth-Bay of Biscay and return, June 1968. 4 reports.

Sub-Lt. P. J. Ford. Rio de Janeiro-Graham Land, Nov.-Dec. 1966; Cape Horn-west coast South America-Panama, Mar.-Apr. 1967. 6 reports, 2 census sheets and 36 pages notes (including a list of Pomarine Skua records 1966-1968).

Mr L. Grimes. Liverpool to Tema, Ghana. Sept. 1967 and Sept. 1969. 8 pages notes.

Captain W. N. H. Jarvis. Philippines-Vancouver, May 1965; Portland, Oregon-Philippines, Apr.-May; Japan-Panama, Aug.-Sept. 1968. 3 census sheets.

Messrs R. de Jong, C. Smeenk and J. Wattel. Den Helder, Holland-Freetown-Curacao-Dakar-Den Helder. Sept.-Nov 1966. 45 census sheets.

Mr P. A. Kemp. Boston-Plymouth, July; Western Approaches, Sept. 1969. 6 reports.

Captain K. D. A. Lamb. Three return voyages U.K.-New York, June-Sept. 1967. 40 reports.

Cdr. J. L. Lees (for R. Y. *Britannia*). Panama-Fiji, March;

Fremantle-Aden. May 1966. 16 reports.

Radio Officer L. E. Lofgren. Three voyages between eastern U.S.A. and Brasil, May-Aug. 1967. 46 reports.

Chief Engineer L. J. Macinnes. Persian Gulf-Catania, Spain, May-July 1967, Venezuela-Sweden, July 1968. 4 reports.

Radio Officer E. L. Marchant. A series of voyages between the Mediterranean and eastern U.S.A.. May-July, Oct-Dec. 1968, Jan-Oct. 1969. 53 reports.

Lt. Cdr. E. G. May. Chatham-Singapore and return, Dec. 1967-Feb. 1968: Singapore-Europe, May-June 1968. 5 reports.

Lt N. R. Messinger. U.K.-Panama, Dec.-Feb. 1969. 1 report.

Messrs F. I. Norman and C. Pask. Gulf of Aden-Melbourne, Dec. 1964-Jan. 1965. 4 pages notes.

Captain A. J. Palmer. Hamburg-South Africa-Singapore and return, July-Sept. 1968. 5 reports.

Captain C. R. S. Pitman. Cape Horn-U.K., Feb. 1967. 6 reports.

Second Officer W. C. W. Price. Hong Kong-Singapore-Mombasa, Jan. 1962; Singapore-East Indies-Hong Kong, Oct-Dec. 1966; Gibraltar-Cape Town, March-Apr. 1968. 10 reports.

Mr R. E. Roughsedge (via Mr E. Hardy). Liverpool-Casablanca. April 1967. 2 pages notes.

Captain K. Salwegter. Vancouver-Bering Sea-Japan, Aug. 1966; Albany, SW Australia-Durban, April; East London-Singapore, Oct. 1967; Colombo-Durban, Nov. 1968; Singapore-East China Sea-Durban, July-Sept. 1969; Durban-east Pacific, Oct. 1969. 52 reports.

Mr G. H. Selby-Smith. Eastern North Atlantic, May 1969. 36 reports.

Lt. J. F. Shorthouse. Eastern Indian Ocean and Singapore, Mar.-Apr. 1967. 1 report.

Mr J. D. Simon. Australian and New Zealand seas, Oct.-Nov. 1966; Australian coastal waters, Apr.-Nov. 1967. 62 reports.

Chief Officer D. M. Simpson. Many voyages between Australia and Japan via ports in the East Indies, Jan. 1967-Oct. 1969. 91 reports.

Captain D. Stam. Wilhelmshavn-Tripoli-Lebanon-Persian Gulf-Suez, Nov.-Dec. 1966; Venice-Persian Gulf-Suez-Persian Gulf-Vizagapatnam, Bay of Bengal-Persian Gulf, Jan.-March; Persian Gulf-Japan and return, then Suez, April-May 1967. 12 pages notes.

Lt. Cdr. R. A. Wilson. NW Minch, Sept.; off NW Ireland, Oct. 1968; Rockhall, March-May 1969. 4 reports and 21 census sheets.

NOTES ON SPECIES

Penguins: Family *Spheniscidae*

Jackass Penguin, *Spheniscus demersus*. P.W.G.C. saw 79 of this species at 33 10'S, 17 51'E, 7½ miles off Saldanha Bay, on 9 January 1968. Three were uniformly dark, possibly oiled, and a large seal was seen to catch one, shake it about, and toss it in the air.

Albatrosses: Family *Diomedeidae*

Waved or Galapagos Albatross, *Diomedea irrorata*. These were recorded by S.E.C. off the coast of South America from 4°N on 4 September 1967 to 15°S on 20 January 1967 and again on 3 February 1968. The maximum numbers were 22 and then 200 at 7°S, 80°W on 6 September 1967, and 77 at 4°S, 81°W, on 13 April 1968.

Shy Albatross, *Diomedea cauta*. P.W.G.C. notes that twenty-five seen with other birds at 24°S, 13½°E on 11 January 1968 were large and flapped more than other Albatrosses. They had very pale to pale grey heads, with the pale grey extending on to the nape and shoulders in one case, and the bills varied, one pale yellow-orange, one grey with a yellow tip, and one grey above with a yellow tip and yellow on the lower mandible. A chrome-yellow bill is of course characteristic of the Chatham Island race, *D.c.eremita*, not previously recorded away from the New Zealand area, and more grey on the head and neck is characteristic of this race and the New Zealand race, *D.c.salvini*, in general. These identifications need to be treated with caution as the birds may have been in the little-known immature plumage when the bill is darker and there is more grey on the head and neck in any case (though more information is needed about it); however, the yellow bill of the Chatham race is apparently rather distinctive at any age. 34 Albatrosses seen by S.E.C. feeding in groups and tearing something to pieces at 15°S, 75¾°W on 31 May 1968 may also have been this species although they were tentatively identified as Grey-headed Albatrosses, *Diomedea chrysostoma*, because they are reported to have had a white wing-lining. They had pale grey heads, and in one case a pinkish bill. P. J. Ford also described ten more probable Grey-headed Albatrosses seen further south at 35°S, 73½°W on 26 March 1967.

Sooty Albatross, *Phoebetria fusca*. One seen by K.S. at 29½°S, 31½°E off South Africa on 17 November 1968.

True Petrels: Family *Procellariidae*

Giant Petrel, *Macronectes*, sp. P.J.F. reports a bird with a pale yellow bill, a grey-brown body and wings and mottled grey head which appeared to have a gap in the wing where the primaries and secondaries meet seen at 48°S, 57½°W on 6 December 1966. This seems most likely to be a bird in one of the later immature plumages which had not yet started breeding beginning an early wing-moult; it would be useful to have more such records.

Northern Fulmar, *Fulmarus glacialis*. Among numerous records, J.O.B. saw over 5,000 at 71¼°N, 27¾°E off north Norway on 15 May 1967 and over fifty on the edge of the Grand Banks at 45°N, 44¾°W on 13 May 1969, presumably young birds since they were far from recognised colonies during the breeding season, and K.S. saw up to five daily sailing across the north Pacific from 53°N, 143°W to 55°N, 179°W on 5-9 August 1966.

Southern Fulmar, *Fulmarus glacialoides*. Recorded as far north as 30°S, 15°E by C.R.S.P. off South Africa on 24 January

1967, 48°S. 57½°W off eastern South America by P.J.F. on 6 December 1966, and 14¾°S, 76°W off western South America by S.E.C. on 17 September 1967.

Prions, *Pachyptila* sp. Among various records, P.W.G.C. saw six and two others which appeared to have square tails so they may have been Blue Petrels, *Halobaena caerulea*, at 34°S, 6°E west of South Africa on 17 September 1967 and 2,000 on the other side of the South Atlantic at 34½°S, 44°W on 25 September 1967, and L.E.L. saw three as far north as 15¾°S 37½°W in this region on 18 July 1967. On the other side of South America P.J.F. saw scattered birds at sea off Mocha Id., Chile, on 26 March 1967, while off the east coast of South Africa K.S. saw six at 28°S, 40°E on 26 April 1967, four at 28¾°S, 34°E next day, and fifty at 28½°S, 35°E on 18 September 1969. The largest numbers, doubtless Fairy Prions, *P.turtur*, were reported by D.M.S. from the vicinity of the Bass Strait, including three at 39°S, 150°E on 15 May 1967, a thousand at 43°S, 147°E next day, 500 at 34°S, 152°E on 19 July 1969, a thousand at 38¾°S, 147½°E next day, and 500 at 37½°S, 150°E on 24 September 1969.

Great-winged Petrel, *Pterodroma macroptera*. P.W.G.C. reports that one seen off South Africa at 34¾°S, 29°E on 24 November 1965 appeared to be moulting, and K.S. also saw a number in this area at the same time in 1968.

White-headed Petrel, *Pterodroma lessonii*. K.S. saw five at 28°S, 37¾°E on 3 November 1967, and there are a number of records around and south of 30°S in the Southern Indian Ocean, south Australian Bight and Tasman Sea, where D.M.S. described one seen at 35°S, 152°E on 14 May 1967.

Schlegel's Petrel, *Pterodroma incerta*. A number of records, the extreme ones being two seen by A.J.P. at 28¾°S, 39¾°E on 18th September 1968, one seen by P.W.G.C. at 24°S, 13½°E on 11 January 1968, and one seen by P.J.F. at 45½°S, 56¾°W on 5 December 1966.

Solander's Petrel, *Pterodroma solandri*. Six seen by D.M.S. at 35°S, 152°E around the ship throughout the afternoon on 14 May 1967 appeared all brown in the distance, but slate grey with a conspicuous white patch in the middle of the rear edge of the underwing at close quarters. Another seven seen again at 29½°S, 153¾°E on 17 September 1969 were again described as large Shearwaters which were grey-brown above and paler below with a very conspicuous white patch under the base of the primaries towards the end of the underwing.

Soft-plumaged Petrel, *Pterodroma mollis*. There is one record from the northern hemisphere, where the species is now rare, of a bird seen at 19°N, 17°W by R.de J. et al. on 27 September 1966. There are a group of records south-east of South Africa by P.W.G.C. and K.S. in November 1965, 1967 and 1968, another by K.S. at 19¾°S, 70½°E on 12 September 1969, and another group by L.E.L., J.D.S., D.M.S. and J.L.L. off Western Australia in May and June

1966 and 1967 between 30°S, 114°E (J.D.S. on 7 and 13 June 1967) and 18½°S, 96°E (J.L.L. on 20 May 1966). See also the record of a bird examined in the hand off South Africa.

Tahiti Petrel, *Pterodroma rostrata*. J.L.L. provides a sketch of a Petrel seen at 12°S, 144°W on 20 March 1966 which was dark above and on the head, neck and underwing with a white belly which may well have been this species. D.M.S. also reports possible birds from east Pacific which do not entirely agree with this species, including first two and then fifty off New Caledonia on 17 and 22 September 1967 which were the same colour as a Brown Booby above with some white on the underwing as well as the belly, and one at 19½°S, 163°E on 19 February 1969 which looked like Schlegel's Petrel, with the head, upperparts and underwing brown and the breast and underparts and also the upper tail coverts white. K.S. also saw a dark-brown Petrel with a white belly at 18¾°N, 120½°E on 31 August 1969. It is not entirely clear what these might be, however.

Reunion Petrel, *Pterodroma aterrima*. The status of this species has recently been discussed by C. Jouanin (Oiseau 40:48-68) who concludes that it might be a small melanistic Indian Ocean representative of the preceding species, and reports the first occurrence of a definite record for eighty years, on Reunion, where it is increasingly clear it must breed. We have some possible records, including five black or very dark brown birds rather smaller than a Wedge-tailed Shearwater with grey-black underwings, long narrow wings and square tails, with a swooping and soaring flight, seen by P.W.G.C. at 20°S, 83°E on 15 November 1965, and three Sooty-brown Petrels seen off Reunion by K.S. on 6 October 1969.

Kermadec Petrel, *Pterodroma neglecta*. P.W.G.C. has several records, including single birds at 8°N, 90½°W on 27th September 1965 and 8°N, 93½°W next day, described as all dark, with long, narrow angled wings which had a large white patch below near the tip, and in the second case flecks of white on the belly as well; also fifteen, including a group of six on the water, at 36°N, 148°E on 26 November 1967, described as quite large with grey-brown bodies and shortish tails, the bill, tail and primaries dark with a conspicuous white patch at the wing-tip above and below, flying with fast flaps and long glides.

Trinidade Petrel, *Pterodroma arminjoniana*. J.O.B. had three medium-sized dark Petrels astern at 35°S, 54¾°W on 26 September 1966, and P.W.G.C. five birds at 27½°S, 31¾°W on 4 October 1967 and one at 24¾°S, 26¼°W next day, described as brown above with white cheeks, chin and belly crossed by a dark breast-band, a little white towards the tip of the upper wing, a conspicuous white patch towards the tip of the brown underwing, and a fast flap-and-glide flight which may have been this species. One of the latter birds was feeding on something just below the water surface. See also the record of a bird examined in the hand in the Tonga Group by

Captain Jenkins.

Hawaiian Petrel, *Pterodroma phaeopygia*. P.W.G.C. reported diminishing numbers regularly while crossing the North Pacific from the point where he saw 250 at 8½°N, 98½°W on 29 September 1965 until he saw the last two at 22½°N, 155½°W on 9 October. He describes them as quite large with long wings and long, somewhat wedge-shaped tails, the wings greyish-brown to brown above with dark tips and diagonal bars, the head and back grey-brown to brown with a dark eye-spot, tail and bill, the underparts and underwing white with dark wing-tips, and some black under the tail or at the side of the chest or white on the rump in some of them. They flew with slow flaps and long glides, and usually occurred in small groups, often with Wedge-tailed Shearwaters; on 30 September at 9½°N, 105°W over a hundred followed a school of porpoises with a dozen Wedge-tailed Shearwaters, on 1 October at 10°N, 109½°W about a dozen with the same number of possible Sooty Shearwaters and six Terns also followed about fifty porpoises, and next day about forty chased flying fish with a dozen Wedge-tailed Shearwaters. He saw ten again at 23°N, 160½°W on 17 November 1967, when he also distinguished White-necked Petrels, which could possibly have been overlooked on the first voyage. J.L.L. also reported one at 3°S, 106°W on 14 March 1966.

White-necked Petrel, *Pterodroma externa*. P.W.G.C. reported five at 17½°N, 148½°W on 15 November 1967, and two at 23°N, 160½°W two days later in a mixed flock also containing Wedge-tailed Shearwaters and Sooty Terns. He describes them as rather similar to a Greater Shearwater, with a black cap and eye-patch, white face and collar, grey back and wing coverts, the back with a scaly appearance as if the feathers had dark edges, dark primaries and tail, a white "V" on the rump, white underparts and underwings except that at least two had a thin dark line on the underwing running from the leading edge diagonally to the body, and a swoop-and-soar type of flight.

Black-capped Petrel, *Pterodroma hasitata*. L.E.L. saw two separately at 33¼°N, 77°W on 1 August 1967, and P.W.G.C. one at 18°N, 74½°W on 7 July 1968. They describe them as dark above and white below, the third with a white collar and tail, the first two with much white on the rump, and with a dark border to the white underwing. The first two flew with a few fast wing-beats and then swooped with angled wings in great arcs over the water; the third mostly flapped with occasional glides low over the water.

"Cookilaria" Petrels, *Pterodroma*, sp. There are numerous records of the small grey and white Gadfly Petrels, with the species identified with varying degrees of confidence, so that it seems better to consider them on a basis of the area from which they were reported. The largest number of reports come from the Tasman Sea, mainly along the east coast of Australia with some extending east from the Bass Strait to New Zealand. It seems possible that these last records, which include flocks of up to 2,000, may include some

Prions, though some records may well refer to Cook's Petrel, *P. cookii*, on the New Zealand side, and Gould's (or the Collared) Petrel, *P.leucoptera* (of which *P.l.brevipes* is a melanistic race) north along the Australian coast and across the tropics. The northernmost Australian records are supplied by D.M.S. from 29½°S, 153°E where he saw twenty on 17 September and again on 11 October 1969. Travelling north, he then had one at 22°S, 154°E on 12 May 1967, and J.D.S. had one at 18¾°S, 154°E and another at 13°S, 154½°E on 22 and 25 August 1967. Further east D.M.S. had 200 at 22°S, 166°E on 17 February 1969, while Captain Jenkins' two records of Black-winged Petrels, *Pterodroma nigripennis*, aboard north-east of New Zealand in November and December 1967 are listed with the records of birds examined in the hand.

In the east Pacific, P.J.F. had a "Cookilaria" at 44°S, 74°W on 25 March 1967, and S.E.C. one at 10½°S, 78½°W on 19 August 1968; the latter is described as a very greyish bird with a swooping flight that fluttered its wings at intervals; the upper parts were grey with the darker primaries and coverts forming a "W" pattern, the tail grey and square with a blackish terminal band, the breast greyish, the belly and underwing white. It may well also have been Gould's Petrel; it remains mysterious quite where the individuals seen and collected around there breed. There are then another group of records in the north Pacific, the easternmost involving three possible Gould's Petrels reported by P.W.G.C. at 23½°N, 157½°W on 9 October 1965, the most southerly three more reported by D.M.S. at 12°N, 143½°E on 30 April 1967, and a number of other records north-west towards Japan, the largest total reported being 200 seen by D.M.S. at 28½°N, 141½°E on 29 April 1967, doubtless Bonin Petrels, *P.hypoleuca*, which breed in that area.

Two records are of special interest. A flock of ten birds seen by D.M.S. off Wuvulu Island on the north-east coast of New Guinea on 12 April 1969 were rather far from the recognised range of members of this group, and close to that of the small form of Tahiti Petrel, *P.rostrata becki*, still only known from two specimens collected in the 1920s. Likewise a bird reported by P.W.G.C. at 9½°S, 91°E on 1 August 1967 is also well outside the recognised range for members of the group, though there are persistent unconfirmed reports of their occurrence in the Indian Ocean; it was not seen well, but appeared pale grey above, possibly with some black on the back, and white below as it glided low over the water. Alternatively, it might have been Barau's Petrel, *P.baraui* from Reunion or the Soft-plumaged Petrel, *P.mollis*, which may winter in this area.

Bulwer's Petrel, *Bulweria bulwerii*. There is some useful new information on the range of this species in the Atlantic. P.W.G.C. saw twelve at 27°N, 19½°W on 9 May 1966, two at 26½°N, 19½W next day, and one at 17¼°N, 25°W two days later, and J.O.B. ten at 32°N, 14°W on 14 May 1967. L.E.L. saw one at 9½°N, 54¼°W

on 24 July 1967, and P.W.G.C. another (well described) at 19½°N, 62¾°W on 6 August 1968. Sailing south, R.de J. et al. met them at 28°N, 14°W on 25 September 1966 and saw another at 24°N, 16°W next day, six at 8°N, 21°W on 5 October, one at 8°N, 26°W next day, 29 at 8°N, 29-31°W the day after, twelve at 8°N, 34°W the day after that, ten at 8°N, 40°W the following day, 14 at 8°N, 44°W the day after that (10 October), and one at 10°N, 60°W on 13 October. P.W.G.C. saw five at 1°N, 36½°W on 21 October 1967 and one at 1½°N, 42¼°W next day, and then on their return voyage R.de J. et al. saw three at 11°N, 42°W on 30 October 1966, four at 11°N, 33°W on 1 November, and one at 11°N, 17°W on 4 November. Finally, P.W.G.C. saw three at 5¾°S, 33°W on 4 December 1965 and two at 4½°N, 49½°W on 7 December. These records confirm that in the Atlantic the species migrates south-west in the winter, from its known breeding area, and some birds, presumably young ones, stay in the wintering area in summer. There are only a limited number of records from the Pacific: D.M.S. saw two there at 28½°N, 141½°E on 29 April 1967, and 15 at 29°N, 142½°E on 11 June 1969, K.S. two at 27°N, 122¾°E on 5 August 1969, and P.W.G.C. one at 23½°N, 162½°W on 17 November 1967.

Jouanin's Petrel, *Bulweria fallax*. Among other records, D.S. recorded 148 at 16¾°N, 55°E on 24 February 1967, and P.W.G.C. saw four at least as far south as 7°N, 52°E on 31 December 1967, noting the wedge-shaped tail, and small dark Petrels with a mobile flight onwards to 15½°S, 52°E around this time, though he did not see the others so well and some at least may have been dark Storm-Petrels.

Brown Petrel, *Procellaria cinerea*. K.S. recorded this species as far north as 19¾°S, 70½°E in the Indian Ocean on 12 September 1969.

White-chinned Petrel, *Procellaria aequinoctialis*. Among numerous records, P.W.G.C. saw it as far north as 24°S, 74°E on 16 November 1965 and 24°S, 13½°E on 11 January 1968 on opposite sides of Africa, and noticed that at least one of 28 seen at 34¼°S, 17½°E off the Cape of Good Hope on 25 November 1965 was in moult.

Cory's (or the Mediterranean) Shearwater, *Calonectris diomedea* = *Puffinus kuhlii*. There are the usual summer records in the Mediterranean and temperate North Atlantic, the more northerly including hundreds seen by K.D.A.L. at 52°N, 40°W on 14 June 1967, and many seen again by him at 46½°N, 53½°W on 14 August, unusually many for this route. P.W.G.C. saw a hundred at 34½°S, 18½°E in the winter quarters off South Africa on 25 November 1965, some thirty at 34¼°S, 12 to 15°E there on 8 January 1968, and then travelling north one at 24°S, 13½°E on 11 January, two at 4¾°S, 9°E on 14 January, twelve at 9°N, 16½°W on 27 January and two at 17°N, 25°W on 29 January; C.R.S.P. also saw some twenty at 9¼°N, 16°W on 31 January 1967, and P.W.G.C. a hundred large Shearwaters in the distance at 45½°N, 49¼°W on 1 December 1966.

There are also a number of south-westerly summer records, presumably involving immature birds, including nine seen by L.E.L. at 5¼°S, 34¾°W on 11 June 1967, three at 8¾°S, 34°W next day, and 15 seen at 12¼°N, 51½°W by P.W.G.C. on 25 June 1968, all migrating north with Great Shearwaters, also 22, some with light patches on the plumage as if they were in moult, seen by L.E.L. at 24°N, 80¼°W on 31 July 1967, seven at 33¼°N, 77°W on 1 August, and another seven at 39°N, 74°W next day.

White-faced (or Streaked) Shearwater, *Calonectris leucomelas*. D.M.S. among others has produced numerous records from both the comparatively well-known summer range in the north-west Pacific, and the little-known winter quarters around the East Indies. Between February and November the species was seen frequently between 20° to 33°N, 115° to 175°E, and D.M.S. had 10,000 at 33°N, 134°E on 3 April 1968, 6,000 at 30°N, 129½°E on 27 March 1967, 3,000 at 26½°N, 123½°W on 28 March 1969 and also at 33°N, 133°E on 16 April 1967, and P.W.G.C. 2,000 at 21¾°N, 120½°E on 24 October 1965; he also had the most easterly record at 27¾°N, 174¾°E on 15 October 1965. It was recorded south to 10°S between 100-150°E between September and February, with none north of 20°N after December. The largest numbers occurred along the north coast of New Guinea, where D.M.S. saw 5,000 at 5°S, 147½°E on 20 January 1969 and 2,000 at 1½°S, 141¼°E on 13 January 1969; some outlying records include ten seen by D.M.S. at 14¼°N, 111½°E on 8 January 1968, fifty which he saw at 17¾°N, 113½°E on 9 January 1969, and a hundred at 5¼°N, 126¾°E next day, fifty which he saw at 10¼°S, 147½°E on 7 February 1967, 150 which were probably this species which he saw in the distance at 9½°S, 136½°E on 22 October 1969, and fifty birds "like Cory's Shearwaters" which seem most likely to be this species seen by K.S. at 7°S, 103¾°E in the Indian Ocean on 6 September 1969.

Wedge-tailed Shearwater, *Puffinus pacificus*. There are numerous records of this species, identified with varying certainty. Travelling west across the Pacific, P.W.G.C. saw seven pale-breasted birds first at 8°N, 88°W on 27 September 1965, then 45 mixed pale-breasted and dark ones at 9½°N, 105°W on 30 September, four and then twelve again at 10½°N, 112½°W and 11°N, 115¼°W on the next two days, entirely brown birds at 12°N, 121¼°W, 12½°N, 127½°W and 14½°N, 133½°W on 3, 4 and 5 October, and then pale birds from 20¾°N, 150°W on 8 October to 27½°N, 179°W on 13 October. In the north-west Pacific D.S. saw five brown birds at 18¾°N, 118½°E on 10 April 1967 and three at 21°N, 120¼°E next day, and K.S. 18 with the phase not mentioned at 19¾°N, 120¼°E on 4 August 1969, and three at 27°N, 122¾°E next day. P.W.G.C. saw five pale-breasted birds at 15½°N, 117°E on 8 December 1967, and D.M.S. saw a hundred brown Shearwaters which may have been this species at 17½°N, 113¼°E, 60 miles north-east of the Paracels Is., on 6 May 1968. Further east, J.D.S. reported 3,000 at 3¼N, 151½°E, north of the Solomons, on 28 August 1967, and

D.M.S. 300 and then 50 at 8°S, 152°E and 9¾°S, 156¼°E south of that group on 25 and 29 January 1969, sixty at 13¼°S, 150°E off the east end of New Guinea on 9 February 1967, 2,000 at 14°S, 159°E, south of Rennell Island, on 20 February 1969, and 500 and then 2,000 at 22°S, 166°E off New Caledonia on 12 and 17 February 1969. No comparable numbers were reported in the Indian Ocean; P.W.G.C. saw five at 8¾°S, 101½°E, 175 at 10°S, 99°E and 36 at 13¾°S, 93½°E on 11, 12 and 13 November 1965, 185, some of them moulting (the wedge-tail was seen, and they were distinguished from Jouanin's Petrels that occurred with them) at 24¾°N, 58°E and four at 23½°N, 60°E on 9 and 27 October 1968, seven at 15°N, 51½°E on 20 October, 25 at 5°S, 59°E on 25 November, and four at 19½°S, 57°E on 3 December. K.S. saw two at 8¾°S, 74°E and single birds at ½°N, 88¼°E and 5½°N, 96°E on 11, 15 and 17 October 1969, J.L.L. one at 6°N, 61°E on 27 May 1966, and D.S. one at 6°N, 92°E and ten possible birds at 6°N, 80¼°E on 1 and 3 May 1967. A pale-phase bird that came aboard the Royal Yacht in the south tropical Pacific is also listed in the table.

Grey-backed Shearwater, *Puffinus bulleri*. J.D.S. saw ten at 36½°S, 161½°E in the Tasman Sea on 21 November 1967, and P.W.G.C. three at 13½°N, 138¼°W on 13 November 1967.

Great Shearwater, *Puffinus gravis*. There are records on both sides of the temperate South Atlantic during the southern summer. Moving north, L.E.L. saw two at 9½°S, 35°W on 12 June 1967, and P.W.G.C. over 1,500 flying NNW in flocks of ten to a hundred at 23°N, 53°W on 13 May 1968, and fifteen again at 12¼°N, 51½°W on 25 June 1968. J.O.B. also describes two seen at 23½°N, 16¼°W off West Africa on 29 May 1969. There are numerous records across the width of the temperate North Atlantic in the northern summer, the last, two seen by R.A.W. at 58°N, 18°W on 14 November 1968 and a hundred seen by J.O.B. at 48¾°N, 7°W on 20 November 1968. R.D.J. saw occasional birds only off West Africa in September, October and November 1966, J.O.B. only a few more sailing north up the central Atlantic in August 1967, and P.W.G.C. still saw some birds here in December 1965; we still have no records of southbound migration comparable in density to the northward movement in spring, and it seems possible that it is a much more gradual and widely dispersed movement.

Pink-footed Shearwater, *Puffinus creatopus*. P. J. Ford saw large flocks heading out to sea to feed with Sooty Shearwaters on flocks of shoaling fish at 38°S, 74°E off the coast of Chile on 15 and 26 March 1967. S.E.C. saw one further north, at 14½°S, 76°W, on 14 January 1968, large numbers in wing moult accompanying Sooty Shearwaters around fishing boats at 10¾°S, 78¼°W on 16 May 1967, and another large raft with Sooty Shearwaters at 6¼°S, 81°W on 12 October 1967. P.W.G.C. saw two at 8°N, 88°W on 27 September 1965, 75 possible birds at 9°N, 98°W on 7 November 1967 and three at 9¾°N, 106½°W next day, and D.S. fifty probable birds at 30°N, 127°E on 14 April 1967.

Pale- or Flesh-footed Shearwater, *Puffinus carneipes*. In the Tasman Sea J.D.S. saw 200 at 35°S, 153°E on 19 December 1966, and 300 at 34°S, 153°E two days later, and D.M.S. 200 probable birds at 18°S, 167°E on 3 February 1969 and another hundred at 19°S, 167¾°E five days later. Further north he saw twelve at 33°N, 134°W on 3 April 1968 and a possible bird at 23½°N, 144½°W on 10 June 1969, and K.S. reports fifteen without a description at 53¾°N, 151¾°W on 6 August 1966 and five at 50°N, 156°E seven days later. J.D.S. saw two moving south in autumn at 23½°N, 135°E on 19 September 1967, and one at 6¾°N, 129¼°E five days later. In the Indian Ocean, J.L.L. described one bird seen on the northward migration at ½°S, 71¼°E on 25 May 1966, P.W.G.C. saw seven at 22°N, 62°E on 18 June 1967, and 45 around 22°N, 59¾°E on 22 October 1968 and one on the southward migration at 10°S, 99°E on 12 November 1965, and K.S. had a series of records then, including a total of 136 fishing in groups at 7°S, 103¼°E on 6 September 1969, six at 13¾°S, 87°E three days later, one at 11½°S, 70½°E on 10 October and 15 at 8¾°S, 74°E next day.

Sooty Shearwater, *Puffinus griseus*. There were a number of records scattered across the temperate North Atlantic between May and November. J.O.B. saw the most northerly at 67¼°N, 12¼°E off Norway on 10 August 1967, and R.de J. et al. saw several off the west coasts of Europe and Africa in September and October 1966, the largest number eight at 14°N, 17°W on 28 September. L.G. also saw twenty at 16½°N, 18°W on 12 September 1969, and P.W.G.C. twelve at ¾°S, 8¾°E on 14 October 1967. There are similarly records in the temperate south Atlantic during the southern summer, when P.W.G.C. saw them a number of times off the Cape of Good Hope, with monthly maxima of two at 33½°S, 23°W on 22 September 1967, 170 at 34½°S, 17½°E on 25 November 1965, and 55 at 33¼°S, 18°E on 9 January 1968; he also saw them further east in the Indian Ocean, including one at 28¾°S, 62¾°E on 18 November 1965 and eight at 29¾°S, 60°E next day. L.E.L. saw one on the northbound migration at 4¼°S, 35°W off the horn of Brazil on 11 June 1967, though this movement is by no means so conspicuous as that of the Great Shearwater. In the Pacific, S.E.C. recorded huge numbers, with some birds in moult, at 36°S, 74°W off Chile on 11 January 1967, and P.J.F. also saw huge flocks flying north at 44°S, 74°W further south on 25 March 1967. On the other side of the Pacific D.M.S. saw some birds on the northbound migration, including thirty scattered along twenty miles of the south coast of Papua around 9°S, 143°E on 6 May 1967, and another thirty at 22½°S, 154°E six days later. In the north Pacific K.S. saw them scattered around 137½°W and 172°E south of the Aleutians in August 1966, with a maximum of hundreds at 54½°N, 161°W on 7 August, while in the east Pacific P.W.G.C. saw one on the southbound migration at 8°N, 90½°W on 27 September 1965 and twelve at 10°N, 109¼°W four days later. Two birds which S.E.C. had aboard off Peru on 14-15 May 1967 are listed in the table.

Short-tailed Shearwater, *Puffinus tenuirostris*. There are the usual records of large numbers seen around the Bass Strait, the maximum, possibly about 100,000, reported by D.M.S. at 37°S, 150°E on 4 October 1969. In the north Pacific D.M.S. saw a thousand birds possibly of this species at 25½°N, 129°E on 28 July 1967, and K.S. a hundred at 53°N, 143°W on 5 August 1966, ten at 54¾°N, 179°W next day, and thirty at 54½°N, 172°E two days after that. On the return migration P.W.G.C. saw a possible bird at 8°N, 88°W on 27 September 1965 and three at 10½°N, 112½°W four days later, described as smaller than Sooty Shearwaters and all dark, and J.D.S. 2,000 at 39°S, 169¾°E on 19 November 1966.

Manx, Townsend's, Newell's, Black-vented, Hutton's and Fluttering Shearwaters, *Puffinus puffinus* and allies. There are a number of records of Shearwaters of this group in European waters, and some elsewhere; it also seems possible some records of the smaller Black-and-White Shearwaters may belong here, or vice versa. J.O.B. saw fifty that may have been Manx Shearwaters, *P.p.puffinus*, moving south at 18¼°N, 24½°W off the Cape Verde Islands (where it has not been recorded) at dusk on 13 October 1966, and at 22¼°S, 40¼°W on 22 October and again at 16¼°S, 37½°W on 22 December, 25 at 12¼°S, 36°W next day, and twenty at 8°S, 34½°W the day after. P.J.F. also saw three in the winter quarters at 32°S, 50°W on 27 November 1966, and P.W.G.C. describes one seen off South Africa at 34¼°S, 17½°E on 25 November 1965, where Lambert has also recently had a number of records (Beitr. Vogelkd. 17:1-32). L.E.L. saw a number of Black-and-White Shearwaters along the whole eastern seaboard of the Americas in the northern summer of 1967: those which may have belonged to this group include two at 34°S, 54°W on 8 July, three at 30¼°S, 50°W next day and also at 30°S, 51°W on 18 June, single birds at 20½°S, 39½°W on 14 June and 17 July, and one off the eastern U.S.A. at 39½°N, 73½°W on 21 May. E.L.M. saw three off the Azores at 36¼°N, 29°W on 19 March 1969, where S.E.C. also saw a hundred on 25 April 1967. In the Pacific P.W.G.C. saw four Shearwaters which were black above and under the tail which he thought might be Black-vented Shearwaters, *P.p.opisthomelas*, at 8°N, 88°W on 27 September 1965, fifteen which were jet black above and pure white below which he thought might be Townsend's Shearwater, *P.p.auricularis*, at 10°N, 109¼°W on 1 October and twenty which he thought might be Newell's Shearwater, *P.p.newelli*, at 21¾°N, 153°W on 8 October 1966, and three birds which he saw at 12½°N, 131¾°W on 12 November 1967 and one at 21°N, 156½°W four days later may also have been this form. 500 Black-and-White Shearwaters reported by J.D.S. at 38½°S, 148°E on 29 July 1967 and 200 reported by D.M.S. at 29½°S, 153¾°E on 17 September 1969 could have been Fluttering or Hutton's Shearwaters *P.gavia* or *P.huttoni*, from New Zealand.

Little or Dusky and Audubon's Shearwaters, *Puffinus assimilis*, and *P.l'herminieri*. There are a considerable number of records of

members of this group. In the eastern tropical Atlantic R.de J. et al. saw up to ten on six days between 34°N, 11°W and 8°N 25°W in September, October and November 1966, J.O.B. saw one at 22¼°N, 22½°W on 12 October 1966, P.W.G.C. one at 17°N, 25°W on 29 January 1968 and three at 32°N, 17¾°W on 1 February, C.R.S.P. ten at 22°N, 17¾°W on 2 February 1967, and N.G.C. seven at 14¾°N, 18½°W on 22 July 1963. In the western tropical Atlantic and Caribbean P.W.G.C. saw 44 at 11¾°N, 61°W off Trinidad on 15 May 1968 and one north of the Bahamas at 31½°N, 71¼°W on 25 May, L.E.L. small dark and white Shearwaters which may have been this species or late migrant Manx at ½°N, 37°W on 10 June 1967, seven around 5°S, 35°W next day, two at 9½°S, 35°W the day after, one at 9½°N, 54¼°W on 24 July, 11 at 34°N, 76°W off the Carolinas on 1 August, and one at 37½°N, 74½°W on 12 August. N.G.C. saw one in mid-Atlantic at 14¾°N, 37¾°W on 24 July 1963, R.de J. et. al. eight at 8°N, 59°W on 11 October 1966, twenty at 8°N, 54°W next day, and 56 at 9½°N, 59°W the day after. P.W.G.C. saw a hundred at 17½°N 68¼°W on 2 November 1966. In the east Pacific S.E.C. saw 15 at 6¾°N, 78½°W on 7 December 1966, P.W.G.C. four possible birds at 8½°N, 93¾°W on 6 November 1967, and two at 8½°N, 98½°W on 29 September 1965. Two central Pacific records are listed in the table of birds examined in the hand. In the north-west Pacific D.M.S. saw two at 23½°N, 144½°E on 10 June 1969, and in the Indian Ocean W.C.W.P. saw one at ½°N, 82¼°E on 15 January 1967 and K.S. one at 22½°S, 52¼°E on 6 October 1969 and another at 28¼°S, 35¾°E on 16 November 1968.

Storm-Petrels: Family *Hydrobatidae*

Wilson's Storm-Petrel, *Oceanites oceanicus*. There are many records. In the North Atlantic G.H.S.S. saw four Storm-Petrels in the wake, possibly this species, at 51°N, 11°W off the south coast of Ireland on 15 May 1969, while parties of a hundred or more were recorded at 45°N, 8½°W in the Bay of Biscay where N.G.C. saw groups of dark, white-rumped Storm-Petrels with long wings, some settled and some flying erratically and sometimes pattering over the water on 21 June 1963: off West Africa where J.O.B. saw a hundred at 17°N, 17¾°W on 3 May 1967, and R.de J. et al. 217 at 9°N, 16°W on 29 September 1966 and 29 still present at 11°N, 28°W on 2 November. L.E.L. also saw a hundred off the eastern U.S.A. at 40°N, 72°W on 21 May 1967, while among records in the western South Atlantic J.O.B. saw over fifty at 22¼°S, 40¼°W on 22 September 1967 and L.E.L. two at 24°S, 43°W on 30 April 1967 and 13 at 8½°S, 34½°W next day. Two tropical Atlantic records are also given in the list of birds examined in the hand. Off South Africa C.R.S.P. saw nine at 24½°S, 10°E on 25 January 1967: off western South America P.J.F. saw great numbers flying north at 43°S, 74°W off Chile on 25 March 1967; in the East Indies D.M.S. saw sixty in the Banda Sea at 5°S, 134°E on 10 September 1969, and the largest total were recorded in the Indian Ocean, where D.S. saw 1,000 and then 500 at 13¾°N, 48¼°E on 23 May 1967 and

P.W.G.C. 450 at 8¾°N, 76½°E on 28 July 1967. There are also some winter records in this region; D.S. saw three in an area where there were shoaling fish at 19¾°N, 58½°E on 12 December 1966, and P.W.G.C. sixty at 19½°N, 58½°E on 29 December 1967.

White-faced Storm-Petrel, *Pelagodroma marina*. In the Atlantic R.de J. et al. had three at 15°N, 17°W on 28 September 1966, and P.J.F. one at 45½°S, 56¾°W on 5 December 1966. In the Indian Ocean J.L.L. had one at 6°N, 61°E on 27 May 1966, and K.S. one at 28°S, 99¼°E on 17 April 1967 and three at 27½°S, 73°E five days later.

White- or Black-bellied Storm-Petrels, *Fregetta grallaria* and *F.tropica*. These were normally recorded as the former, but the characteristic dark line down the bellies of some of the latter are hard to see. In the north Atlantic R.de J. et al. report one at 11°N, 28°W on 2 November 1966 but give no details, and P.W.G.C. describes a bird seen at 32°N, 44½°W on 11 May 1968 as dark above with a dark head, probably a white rump, the underbody and underwing coverts white, and a bouncing, splashing flight across the water surface. He also saw others in the tropical Atlantic at ½°N, 23½°W on 19 October 1967, in the south Atlantic at 31¼°S, 8½°E on 27 November 1965 and 17°S, 17¾°W on 1 December 1965, and in the Indian Ocean four at 11½°N, 55½°E on 15 July 1967, two at 16°N, 57½°E next day, one at 18°N, 64¾°E on 25 July and two at 12¼°N, 74°E two days later. On opposite sides of South America P.J.F. saw 13 at 43½°S, 56°W on 5 December 1966, and one at 40°S, 75°W on 15 March 1967, while S.E.C. saw one at 19¼°S, 70½°W off Peru on 24 August 1968.

Galapagos Storm-Petrel, *Oceanodroma tethys*. In addition to the two that came onboard off Peru, S.E.C. reported three white-rumped, notch-tailed Storm-Petrels at high tide while at anchor in the estuary off Buenaventura, Columbia, which may have been this species.

Leach's Storm-Petrel, *Oceanodroma leucorhoa*. There are many records of dark, white-rumped Storm-Petrels which were probably this species or its allies. The most important are those of birds which came onboard; all the records which we have now had, together with those of specimens in museums, are plotted on the map, which gives a fair idea of its range, except that it probably extends further west at sea in the Pacific. Among records at sea, J.O.B. saw over a hundred at 45°N, 44¼°W in the north-west Atlantic on 13 May 1969 and two at 45°N, 35¼°W next day, P.W.G.C. four possible birds at 45½°N, 39¼°W on 1 December 1966 and one at 43½°N, 32½°W on 19 December, R.A.W. one at 55½°N, 8½°W north of Ireland on 21 October 1968, R.de J. et al. various birds off West Africa in the autumn of 1966, including over 200 at 11°N, 28°W on 2 November, N.G.C. 34 at 7¾°N, 24¼°W on 10 August 1963 and two at 6½°N, 18½°W next day, P.W.G.C. seven at ½°N, 23½°W on 19 October 1967 and nine at 1°S, 29½°W off St. Paul's Rocks next day, L.E.L. nine at 16¾°N, 52½°W on 9 May 1967, and P.W.G.C.

thirteen at 10°N, 109½°W in the tropical east Pacific on 1 October 1965 and 84 around 12°N, 124°W two days later. He describes these Pacific birds as all dark except for a conspicuous white rump, a nearly square tail and a pretty steady flight with a lot of gliding, tentatively identified as Madeiran Storm-Petrels, *Oceanodroma castra*, but they seem as likely to have been this species, while an all-dark bird with paler coverts also seen at 8¼°N, 83½°W on 28 September, tentatively identified as the Ashy Storm-Petrel, *Oceanodroma homochroa*, might also have belonged to one of the dark-rumped populations of Leach's Storm-Petrel nesting off Lower California.

Swinhoe's Storm-Petrel, *Oceanodroma* (*leucorhoa*) *monorhis*. D.M.S. reported a hundred of this dark-rumped west Pacific representative of Leach's Storm-Petrel in the Taiwan Strait on 12 July 1967, and forty again off the north-west coast of Taiwan on 28 July. He describes them as dark brown with paler marks on the back of the wing and a forked tail, weaving back and forth low over the water in the wake. It is surprising we do not get more records of them, as they are now known to migrate south to the East Indies and central Indian Ocean with Matsudaira's Storm-Petrel, discussed below (R. S. Bailey, R. Pocklington and P. R. Willis, Ibis 110:27-34).

Matsudaira's Storm-Petrel, *Oceanodroma matsudairae*. On 10 June 1969 at 22°N, 145¼°E D.M.S. saw some 20 dark Storm-Petrels in the wake tentatively identified as the last species, and at sunset at 25¼°N, 144°E there were a hundred with a few round the bow, while another forty were seen at 29°N, 142½°E next day. They were described as generally sooty brown, black on the primaries and also very dark on the tail, with a noticeable greyish band on the upper wing between the primaries and the body, and a deeply forked tail. Some showed a pale spot on the leading edge of the wing about half-way along the black primaries towards the tip. They were seen to feed on galley slops, without alighting on the water. It was thought that alternatively they might have been "Sooty Storm-Petrels" (Tristram's Storm-Petrel), but the pale spot, actually due to pale primary-shafts, is characteristic of the warmer water form Matsudaira's Storm-Petrel, *O.matsudairae*, though possibly both species may occur together here at times.

Tristram's Storm-Petrel, *Oceanodroma tristrami*. On 30 April 1967 D.M.S. saw about a hundred large dark Storm-Petrels in the wake all afternoon at around 22°N, 143°E, together with three Bonin Petrels, *Pterodroma hypoleuca*. They were described as dark brown with conspicuous paler markings on the wing backs and a long tail with a deep fork in the end. The wings appeared rather long and they were swooping rather than dancing on the water, while their legs could not be seen. They seem most likely to have been this species (together with some of the birds mentioned under the last species as well, perhaps, since they both breed in the area?). It may be noticed that in addition to the white primary shafts

already mentioned, Matsudaira's Storm-Petrel tends to be dark brown in colour, whereas Tristram's Storm-Petrel is more blue-grey, with more prominent pale upper wing-coverts and also a somewhat paler rump.

Black Storm-Petrel, *Oceanodroma melania*. P.W.G.C. reports about a dozen large, black Storm-Petrels in the wake at 7½°N, 84¾°W on 26 September 1965, sixteen at 7¾°N, 81½°W on 6 November 1967 and two possible ones at 10°N, 110¼°W three days later.

Markham's Storm-Petrel, *Oceanodroma markhami*. S.E.C. has a considerable series of records from the west coast of South America. They include 11 at 26°S, 71½°W on 31 January 1968, 26 at 18½°S, 72°W on 2 February, ten at 22½°S, 70¾°W on 30 April, six at 18¼°S, 73¾°W on 6 June 1967, two at 19¼°S, 70½°W on 24 August 1968, 35 at 19½°S, 73°W on 4 September, 12 at 6¼°S, 81°W on 13 September 1967, fifty at 2¼°S, 81¼°W next day, and 12 at 6½°S, 82°W on 13 October. He describes them as larger than Hornby's Storm-Petrel, dark sooty brown, very pale on the wing coverts, with a long, forked tail.

Hornby's Storm-Petrel, *Oceanodroma hornbyi*. S.E.C. has a series of records from western South America again. They include three at 18½°S, 72°W on 2 February 1968, nine at 23¼°S, 71°W on 23 May, two at 18¼°S, 74°W on 12 June and 2¼°S, 81¼°W on 14 September, three at 19½°S, 73°W on 4 October 1968 and twenty at 6¼°S, 81°W on 13 October 1967. On the last occasion one bird had a darker back and sub-terminal band to the tail as well as the characteristic wing-pattern and was thought to be immature. It may be remarked that this species and the last has still not been found breeding, though it seems likely to nest somewhere in the inland deserts on this coast.

Fork-tailed Storm-Petrel, *Oceanodroma furcata*. K.S. saw a number while sailing round the north coast of the Pacific in August 1966, including ten at 60°N, 134½°W on the 4th, two at 53¾°N, 151¾°W two days later, three at 54½°N, 161°W next day, 26 at 54½°N, 161°W the day after, and six at 54½°N, 179°W to 172°E on the 11th.

Diving-Petrels: Family *Pelecanoididae*

Peruvian Diving-Petrel, *Pelecanoides garnoti*. S.E.C. had two at 13°S, 77°W on 14 June 1967, many groups around 7°S, 80°W on 6 September, and two at 6¼°S, 81°W on 13 October.

Common and Magellan Diving-Petrels, *Pelecanoides urinatrix* and *P.magellani*. P.J.F. saw many individuals around 53°S, 70°W in the Strait of Magellan on 22 March 1967, probably *P.magellani* though *P.urinatrix* also occurs at sea in this area. D.M.S. saw over 200 *P.urinatrix* at 42°S, 145°E off Maria Island, eastern Bass Strait, on 16 February 1967, and forty at 29½°S, 153¾°E on 17 September 1969.

Tropic-birds: Family *Phaethontidae*

Red-billed Tropic-bird, *Phaethon aethereus*. There are a few records in the North Atlantic. In the South Atlantic J.O.B. saw at

least two at 4°S, 32½°W off Fernando Noronha on 25 December 1966 and L.E.L. one at 18¼°S, 38½°W off south Brasil on 1 May 1967. In the Pacific P.J.F. saw six at 20°S, 75¼°W on 4 April 1967 and S.E.C. one at 18¼°S, 73¾°W on 12 June 1967; J.D.S. also reports one at 12¼°N, 131°E east of the Philippines on 21 September 1967, but gives no details, and we would like reports for any birds seen in the west Pacific since it still remains to be confirmed that the species occurs there, though there are also some old reports. There are a number of records in the Arabian Sea, and P.W.G.C. also reports birds at 15½°N, 73½°E on 27 February 1969, 8¼°N, 77°E on 29 December 1968, and 17½°S, 57¾°E on 1 December 1968, and J.L.L. one at 7¼°S, 80¾°E on 23 May 1965. The first of the last two birds is said to have had a redder bill than birds seen in the Arabian Sea though otherwise similar, and there is no description of the second; it would be useful to have descriptions of birds seen south and east of Ceylon, as it is not clear to what extent they occur there.

Red-tailed Tropic-bird, *Phaethon rubricauda*. There are three records in the central Indian Ocean, where K.S. saw two at 19°S, 87¼°E on 6 October 1969, two at 19°S, 87¼°E on 11 November 1967, and one at 16¾°S, 88¼°E next day; the last two Indian Ocean records of Red-billed Tropic-birds might also refer to this species. In the west Pacific J.D.S. had one at 13°S, 154¼°E on 25 August 1967, five at 3¼°N, 151½°E three days later and one at 6°N, 127¼°E on 24 September, and D.M.S. a possible bird at 10°S, 161°E on 1 February 1969, one at 18¾°N, 142°E on 27 February, and one at 23½°N, 144½°E on 10 June.

White-tailed or Yellow-billed Tropic-bird, *Phaethon lepturus*. There are several routine Atlantic records. In the west Pacific D.M.S. has a number of records including one at 6¼°N, 147¼°E on 7 October 1967, three at 2°N, 136¾°E on 12 January 1969 and one at ½°S, 140¼°E next day, one at 5¼°N, 132¼°E on 10 April, two off New Britain on 20 April, three at 7¾°N, 151°E on 7 June and one at 6¾°N, 122°E on 20 August. His northernmost record was of a bird aboard at 20¾°N, 141°E on 27 February 1969, and W.H.H.J. also had one aboard at 34½°N, 166°E on 27 August 1968. In the Indian Ocean P.W.G.C. saw one at 19½°S, 57°E near Mauritius on 3 December 1968, J.F.S. two at 2½°N, 91°E on 31 March 1959 and five at 1¼°S, 90°E next day, K.S. three salmon-coloured birds at 7°S, 103¼°E on 6 September 1969 and one of unspecified colour at 9½°S, 97¾°E next day, and D.M.S. thirty in groups of up to eight, all but about five golden in colour, at 11°S, 105°E off Christmas Island on 20 June 1967. Another bird of this distinctive race also came aboard *Atlantis II* much further south-east (see table); it would be useful to have more records of its distribution.

D.S. recorded a Tropic-bird of uncertain identity at 15°N, 115°E in the South China Sea on 9 April 1967; it would be useful to have records of which species occurs here, as the Red-billed has been recorded in the past though confirmation is required.

P.W.G.C. also recorded two birds with "grey bills" at 12½°N, 127½°W in the central Pacific on 4 October 1965, probably young birds of uncertain species.

Pelicans: Family *Pelecanidae*

Brown Pelican, *Pelecanus occidentalis*. P.W.G.C. saw at least 2,000 with a similar number of Bigua Cormorants, *Phalacrocorax olivaceus* off Puerto Miranda, Venezuela, on 10 July 1968.

Gannets and Boobies: Family *Sulidae*

Northern Gannet, *Sula bassana*. Among various records in European and west African waters, R.de J. et al. saw as many as 141, mainly immature, in groups as far south as 21-23°N, 17-16°W on 10 November 1966.

Blue-faced or Masked Booby, *Sula dactylatra*. In the Atlantic there are a series of records along the north-east coast of South America, including one seen by L.E.L. at ¾°N, 39¼°W on 5 May 1967, one seen by P.W.G.C. at 4¾°N, 48¼°W on 23 October 1967, two seen by R.de J. et al. at 8°N, 50°W on 11 October 1966, with one at 8°N, 53°W next day and two at 9°N, 59°W the day after. D.S. saw three at 13½°N, 43°E in the approaches to the Red Sea on 9 December 1966, and numerous people saw them in the Arabian Sea as usual. Elsewhere in the Indian Ocean E.G.M. saw three at 14¼°S, 92¼°E on 15 January 1968, D.M.S. a hundred at 11°S, 105°E off Christmas Island on 20 June 1967, and P.W.G.C. five at 8¾°S, 101½°E between there and Cocos-Keeling on 11 November 1965. In the west Pacific, D.M.S. saw one at 18½°N, 142°E near the Marianas on 27 February 1969, one nearby at 19½°N, 146¼°E on 9 June, one at 16½°N, 147¼°E on 9 October 1967 and one at 16°N, 153°E next day, two at 14°N, 111¾°E in the South China Sea on 9 March 1968 and thirty at 16¾°N, 113°E there on 6 May, one at 5¼°N, 132¼°E north of the Moluccas on 10 April 1969 and twenty at 4¾°N, 132¼°E next day, while J.D.S. also saw four at 6¾°N, 129¼°E in this area on 24 September 1968.

Red-footed Booby, *Sula sula*. In the Atlantic J.O.B. reported them around Fernando Noronha, including 25 at 3°S, 31°W on 18 October 1966, fifty at 4°S, 32½°W on 25 December 1966, and thirty at 5½°S, 33¼°W on 29 August 1967, the adults in the white phase, while R.de J. et al. saw a number around Trinidad in October 1966, starting with 18 at 9°N, 59°W on the 13th, and including over 500 at 11°N, 62°W on the 16th. 360 at 12°N, 64°W the next day, and continuing until seven were seen at 12°N, 68¾°W off Curacao on the 24th. In the Indian Ocean P.W.G.C. saw 13 at 8½°S, 46½°E near Aldabra on 9 September 1967 and fifteen nearby at 11°S, 47½°E on 5 December 1968, K.S. saw fourteen at 2°S, 71°E, west of the Maldives on 8 November 1968, five at 6¼°S, 67¼°E next day and ten at 13½°S, 59°E near the Agalega Group two days later, E.G.M. saw one at 14½°S, 92°E west of Keeling-Cocos on 2 February 1966 and east of here K.S. saw one at 7°S, 103¼°E on 6 September 1969, thirteen at 9½°S, 97¾°W next day, and twenty at 11¾°S, 96¼°W on 17 November 1967, and P.W.G.C. two at 8¾°S,

101½°W on 11 November 1965. In the Pacific D.M.S. saw vast numbers, estimated at 40,000, off a breeding colony on Manoek Island at 5°33′S, 113°18′E in the Java Sea on 23 October 1969, of which he estimated 60% were in the white phase, 15% in the brown phase with a white tail, and 25% were "immature", brown or more often grey with a varying amount of white on the body and tail. Elsewhere he saw twenty at 7¾°N, 151°E in the Caroline Islands on 7 June 1969, and a number in the Sulu Sea, including 200 at 10½°N, 121¾°E on 7 April 1969 and one at 6¼°N, 123½°E next day, fifty at 10°N, 122°E on 6 July 1969, and forty at 10¼°N, 122°E on 6 September 1969: there must also be a breeding colony somewhere around this last area. W.N.H.J. also saw one at 16°N, 126°E, east of Luzon on 23 May 1965 and six at 15¾°N, 99°W, off south-west Mexico on 11 September 1968, and D.M.S. one at 13°S, 149½°E on 9 February 1967 and forty at 17¼°S, 161½°E in the Coral Sea on 2 June 1969. Two records from the central Pacific are given in the list of birds examined in the hand.

Brown Booby, *Sula leucogaster*. In the Atlantic P.W.G.C. saw fourteen at ½°S, 6¾°E off S. Thome in the Gulf of Guinea on 14 October 1967, R.de J. et al. a number along the south shore of the Caribbean, including 27 around 10°N, 60°W on 13 October 1966, a hundred around 11°N, 62°W two days later, and L.E.L. fifteen off south Brasil at 24°S, 43°W on 30 April 1967 and 85 around 12°N, 64°W on 25 October. In the Indian Ocean D.S. saw four in the approaches of the Red Sea at 13½°N, 43°E on 9 December 1966, K.S. one at 6°S, 67°E, west of the Chagos group on 9 November 1968, and D.M.S. twenty at 11°S, 105°E, near Christmas Island on 20 June 1967. He also saw some 40,000 around Manoek Island at 5°33′S, 113°18′E in the Java Sea on 23 October 1969, mostly adults though a few immatures were seen about fifty miles north-west of the island at the end of the day. J.D.S. saw one and then four at 10¾°S, 126½°E south of Timor on 25 and 26 September 1967. There are many records in the west Pacific. In the north, D.M.S. saw 300 at 30°N, 129½°E off the northern Ryukyu Is. on 27 March 1969 and three nearby at 30°N, 131°E on 22 April 1967, and further south along this chain 200 at 25½°N, 128¾°E on 28 July 1967. He also saw one at 22°N, 124°E in the Luzon Strait on 12 July 1967 and 15 to the east at 22°N, 127°E on 22 December 1967, and P.W.G.C. also saw five in this area at 19½°N, 121¼°E on 7 December 1967. K.S. saw one off the north end of Taiwan at 26½°N, 123¾°E on 26 October 1969, D.M.S. one in the Marianas at 15°N, 144¾°E on 1 May 1967, one off Viet Nam at 14°N, 111¾°E on 9 March 1968 and eight there at 8¾°N, 106¼°E on 24 February 1968; W.C.W.P. saw one at 10½°N, 121°E in the Sulu Sea on 18 October 1966, and D.M.S. others there at 6½°N, 122¾°E on 9 January 1969 and 6¼°N, 123½°E on 8 April 1969. W.C.W.P. saw four at 2½°N, 129½°E, north of the Moluccas on 12 October 1966, and D.M.S. two near here at 2°S, 129°E on 9 September 1969 and 29 at 5°S, 134°E next day, then along the north coast of New Guinea one at 2°S, 139°E

on 15 April 1967, two and then five birds around ½°S, 131°E on 12 and 13 April 1969, one and then two at 2½°S, 142½°E on 11 and 12 August 1967, one at ¼°S, 140½°E on 13 January 1969, and four at 4°S, 145¼°E two days later, 200 at 5°S, 147½°E on 20 January 1969, fifty at 7°S, 150°E on 16 April 1969, and 18 at 9°S, 151½°E on 6 February 1967. Along the south coast of New Guinea he saw a bird at 13°S, 143½°E on 12 September 1969, others repeatedly around its east end, for example four at 13°S, 149½°E on 9 February 1967, one at 11¼°S, 151¼°E on 29 August 1967 and around 10½°S, 150°E on 25 and 28 January 1969, and four at 13°S, 149½°E on 9 February 1969 and again at 10½°S, 151¼°E on 3 May 1969. He saw 17 birds off New Britain on 24 April 1969, off the southern Solomons ten at 9½°S, 160¼°E on 6 September 1967, fifty at 10°S, 161°E on 1 February 1969, and one at 13½°S, 158¾°E on 20 February 1969. Off New Caledonia seven at 21°S, 165°E on 17 September 1967 and three at 22°S, 166°E on 17 February 1969.

Frigate-birds: Family *Fregatidae*

These present difficulties of identification in some plumages, so they will be treated according to the area of occurrence and the suggested identification indicated.

In the Atlantic R.de J. et al. recorded six at 9°N, 58°W approaching Trinidad on 13 October 1966 and others on to Curacao, and J.O.B. saw two, one immature, at 4°S, 32½°W off Fernando Noronha on 25 December 1966. These were doubtless Magnificent Frigate-birds, *Fregata magnificens*.

In the Indian Ocean P.W.G.C. saw four possible Greater Frigate-birds, *Fregata minor*, at 8°S, 41¾°E off the coast of Tanzania on 6 December 1968, two Greaters at 11°S, 47½°E near Aldabra on the previous day, and K.S. six Lesser Frigate-birds, *Fregata ariel*, at 13½°S, 59°E near the Agalega Islands on 12 November 1968, and three Greaters at 2°N, 74°E near the Laccadives on 7 November 1968. A.J.P. saw two Greaters at 8°S, 76½°E near the Chagos group on 13 September 1968, and K.S. seven Greaters at 9½°S, 97¾°E on 7 September 1969 and one at 11¾°S, 96¼°E on 17 November 1967, both near Cocos-Keeling. D.S. saw an unidentified Frigate-bird at 2½°N, 102°E in the Malacca Strait on 5 April 1967, and K.S. first two and then fifty Lessers at 3½°S, 106½°E and ½°S, 104°E north of Sumatra on 17 and 18 November 1967. D.M.S. saw nine Greaters at 10°N, 102¾°E in the Gulf of Siam on 26 December 1967, and W.C.W.P. one at 8°N, 125°E in the Philippines on 20 October 1966. There are a number of records around the Moluccas, including six Greaters seen by D.J.S. at 6¾°N, 129¼°E on 21 September 1967, 33 Lessers which he saw there two days later, and another Greater there the day after that, one Lesser seen by D.M.S. at 5¼°N, 128¾°E on 9 April 1969, a Lesser which he saw at 1°S, 131°E four days later, five Lessers at 2¾°S, 130½°E on 9 July 1969, 40 Lessers at 3¼°S, 130°E on 9 September 1969, and one Lesser at 6½°S, 143¼°E next day. He also saw three Lessers at 7¾°N, 151°E among the Carolines on 7 June 1969, and many

birds along the north coast of New Guinea, including ten Lessers at 9¾°S, 143¼°E on 15 August 1969, 38 Lessers at 4½°S, 143°E on 4 October 1967, two Lessers at 6°S, 146°E on 26 August 1967, twelve birds at 6°S, 147°E on 27 August 1967, two Lessers at 9°S, 147°E on 8 February 1967, one Lesser at 6°S, 148½°E on 16 January 1969, 150 Greaters at 7°S, 150°E on 16 April 1969, one Greater at 8°S, 150½°E on 28 August 1969, one Lesser at 10¼°S, 151½°E on 28 January 1969, one Greater at 10½°S, 152°E on 20 June 1967, and two Greaters at 11°S, 152°E on 2 September 1967. Among the islands to the north and east, he saw four Lessers off New Britain on 24 April 1969, 22 Lessers there on 19 August 1967, 150 and then 8 Lessers at 4°S, 154°E on 21 and 23 January 1969, two Greaters at 2°S, 161°E on 1 February 1969 and 400 Lessers at 10°S, 161°E off the southern Solomons on 1 February 1969.

Phalaropes: Family *Phalaropopidae*

There are difficulties of identification with birds in winter plumage at sea, and they will be discussed according to the area of occurrence. In addition to the normal records of wintering Grey Phalaropes, *Phalaropus fulicarius*, off west Africa there are several scattered records in the North Atlantic, probably mainly referring to migrants, including two seen by R.de J. et al. at 45°N, 7°W on 22 September 1966 and forty which they saw at 41°N, 9°W on 14 November 1966, eight seen by P.W.G.C. at 41¼°N, 38°W on 20 December 1966, three which he saw flying south-east at 23¼°N, 59½°W on 29 August 1966 and fifteen flying south at 18½°N, 74½°W on 5 August 1966; he also saw three birds with very grey backs, presumably again Grey Phalaropes, at 34°S, 15¼°E off South Africa on 16 September 1967, and a number of birds in the Arabian Sea thought to be this species although the reported grey-brown backs seem more compatible with Red-necked Phalaropes, *Phalaropus lobatus*, including over 3,500 at 24½°N, 58½°E on 19 December 1967, nearly 8,000 at 15°N, 51½°E on 20 October 1968, and 1,000 at 24¾°N, 58¼°E on 17 January 1969; the status of Grey Phalaropes in this area, if they occur, is still unclear. K.S. reports a Red-necked Phalarope in the Indian Ocean at 13½°S, 59°E on 12 November 1968 and a Phalarope at 13¾°S, 87°E on 9 September 1969, but gives no details, and there seems a risk of confusion with White-faced Storm-Petrels in that area. He also reports occasional birds at sea in summer in the northern Pacific, including one at 54½°N, 161°W on 7 August 1966, two at much the same position next day, five at 54¾°N, 179°W on the day after and three at 54½°N, 172°E two days later. He saw 34 at 34¼°N, 123¼°E and 405 at 30¾°N, 131¼°E in the South China Sea on 7 and 28 August 1969, and D.M.S. saw six with light grey backs, which could have been Grey Phalaropes, further east at 30¼°N, 141°E north of the Bonins on 27 January 1967. He also saw eight with mottled grey backs, which sound like Red-necked Phalaropes, at 14°N, 111¾°E in the South China Sea on 9 March 1968, 800 with grey-brown backs at 6¼°N, 123½°W near the Sulu Archipelago on 8 April 1969, and 300

more with grey backs at 6¾°N, 122°E nearby on 20 August 1969, which also seem likely to be this species.

Skuas: Family *Stercorariidae*

Great and McCormick's or Southern Skuas. *Catharacta skua* and *C.* (*s.*) *maccormicki*. There are a number of records from the temperate North Atlantic and also West Africa, where it has seldom been recorded in the past; these and scattered records to the west might involve birds of either northern or southern origin, especially since birds ringed in the Shetlands and Deception Island in the Antarctic were recovered simultaneously close together in the Caribbean in May 1967 (R. Hudson, Bird Study 15:33-34). R.de J. et al. report one at 8°N, 30°W in the tropical Atlantic on 7 October 1966, eight at 11°N, 17°W on 4 November, and two at 16°N, 17°W and five at 21-23°N, 17-16°W on 9 and 10 November 1966, J.O.B. two at 8°N, 14½°W on 5 May 1967, one at 12½°N, 17¾°W three days later, and two at 23½°N, 16¼°W on 29 May 1969, P.W.G.C. one at 22½°N, 17¼°W on 28 June 1969, and L.E.L. birds at 8½°S, 34¾°W on 3 June 1967, at 8½°N, 45¾°W four days later (when it kept with the ship for two hours and attacked a flying fish), and in the South Atlantic off southern Brasil at 30½°S, 50°W on 23 May 1967. Among other records in the southern hemisphere D.M.S. saw up to twenty off southern Australia at 38¾°S, 147¼°E on 20 July 1969, and S.E.C. a bird as far north as 14½°S, 76°W off eastern South America on 14 January 1968. P.W.G.C. describes one seen as far north in the east Pacific at 9°N, 98°W on 7 November 1967, and notes he has previously seen it in that area on 20 July 1965. He also describes one seen at 23½°N, 60°E in the northern Arabian Sea on 24 July 1967, and J.L.L. also reports a bird at ½°S, 71¼°E south of the Chagos group in the tropical Indian Ocean on 25 May 1966, and K.S. another further east at ½°N, 88¼°E on 15 October 1969.

Pomarine Skua, *Stercorarius pomarinus*. There are numerous records all round the world. Among records in the North Atlantic, P.W.G.C. saw up to three immature and adult, some in moult with primaries missing, between 32½°-35¾°N and at 70°W on 1 and 2 January 1967, and one in the South Atlantic at 10°S on the meridian of Greenwich on 10 October 1967. In the Indian Ocean he saw six at 11½°N, 73°E off the west coast of India on 16 December 1967, and D.S. 38 of both colour-phases at 14°N, 45¾°E flying east in the Gulf of Aden on 31 January 1967. He also saw one at 2½°N, 102°E in the Straits of Malacca on 29 April 1967, while D.M.S. saw fifty, all but one in the pale phase, at Bangkok Bar on 28 April 1968; he reports he also saw many birds there in March and three in June the previous year, and wonders whether they linger there to feed around the ships before setting out north overland. Elsewhere in the Pacific P.W.G.C. saw one at 38°N, 143½°E east of Japan on 27 November 1967, D.S. two at 23¾°N, 134¾°E east of Taiwan on 17 April 1967, D.M.S. two at 8¼°N, 123°E in the Sulu Sea on 9 January 1969, one at ¼°N, 139¼°E north of New Guinea on 12 April

1969, and six at 18°S, 167°E in the New Hebrides on 3 February 1969, and J.D.S. saw birds off Victoria including five at 37°S, 154°E on 30 November 1966, eight at 38°S, 151°E on 1 December 1966, and three at 35°S, 138°E on 8 December 1966.

Arctic Skua, *Stercorarius parasiticus*. There are fewer records than of the last species, possibly because it winters further south in unfrequented places, though there may have been some confusion over birds in moult. There are some records in the temperate north Atlantic. Further south, in autumn R.de J. et al. saw six at 15°N, 17°W off West Africa (where it apparently occurs mainly as a migrant) on 28 September 1966, and one at 8°N, 48°W on 11 October 1966. P.W.G.C. saw one at 19°N, 80°W south of Cuba on 16 October 1965, and in spring L.E.L. saw one in the Sargasso Sea at 21°N, 56¼°W on 10 May 1967. P.W.G.C. saw fifty in both colour phases, some with elongated central tail-feathers but many without, and in one case chasing Terns, at 27½°S, 15°E off South Africa on 10 January 1968, and 17 at 21½°S, 12½°E next day. D.S. reports three at 32°N, 34°E in Port Said roads on 17 February 1967, three at 30°N, 49°E in the northern Persian Gulf on 10 May 1967, and one at 9¼°N, 75½°E off south-west India on 10 May 1967, all without details, while in the Pacific he reports three at 24¾°N, 134¾°E east of Taiwan on 17 April 1967, D.M.S. reports one at 8½°S, 155½°E in the Solomons on 21 February 1969 and two possible birds at 28°S, 155°E off Queensland on 13 May 1967, and S.E.C. twenty possible birds at 15°S, 76°W off Peru on 3 February 1968.

Long-tailed Skua, *Stercorarius longicaudus*. There are even fewer records of this species, for much the same reasons as with the last, mostly in the North Atlantic. They include one reported without details by R.de J. et al. at 15°N, 17°W off west Africa on 28 September 1966, one seen by L.E.L. at ¾°N, 39¼°W off Brasil on 5 May 1967, and two which he saw separately at 21°N, 56¼°W off the Antilles five days later. D.S. reports that he saw one at 30°N, 49¼°E in the northern Persian Gulf on 25 March 1967; it would be useful to have details of such records, as the status of this species in the Indian Ocean area is still most obscure.

Gulls: Family *Laridae*

Herring Gull, *Larus argentatus*. There are the usual records from north temperate coasts, and N.G.C. saw over a hundred at 29°N, 48¼°E in the north Persian Gulf on 19 January 1969. E.L.M. reports that birds followed the vessel from New York for four days to 36¾°N, 45¾°W in mid-Atlantic on 17 January 1969, when there were still about thirty, half immature, in the evening. They were gone next day.

Lesser Black-backed Gull, *Larus fuscus*. L.J.M. noted a bird with white flashes on the top side of its wings, similar to aircraft roundels, at 58¾°N, 2¾°E in the northern North Sea, followed by another in the Pentland Firth, on 10 July 1968. This appearance may be caused by moult of the wing-coverts exposing an unusual amount of the paler bases of the primaries, but it is also a fairly

frequent normal variation in a number of species of Gull and it would be useful to have more notes of its occurrence. Among southerly records, N.G.C. saw over a hundred at 29°N, 48¼°E in the northern Persian Gulf on 19 January 1969, and on opposite sides of Africa P.W.G.C. sixteen at 6¾°S, 39¼°E near Zanzibar on 7 December 1968, also two adults and an immature at 4¼°N, 7°E off the Bonny River, Nigeria on 7 July 1969; in the latter case in particular there may be some question whether they were Southern Black-backed Gulls that had wandered north instead.

Southern Black-backed or Dominican Gull, *Larus dominicanus*. Among various southern records, L.E.L. saw one north to 22°S, 41°W off Brasil on 30 April 1967.

Iceland Gull, *Larus leucopterus*. Among other records, P.W.G.C. saw an immature bird with 400 Herring Gulls as far south as 40¾°N, 74°W off New York on 23 May 1968.

Great Black-headed Gull, *Larus ichthyaetus*. P.W.G.C. saw six and three at 19°N, 73°E off Bombay on 28 February and 1 March 1969, and D.S. seven adults and three immatures at 17½°N, 83°E off Vizakhapatnam on the opposite coast of India on 12 March 1967.

Indian Black-headed Gull, *Larus brunnicephalus*. P.W.G.C. saw several thousand with three Northern Black-headed Gulls in the Bangkok River on 13 February 1969.

Silver Gull, *Larus novaehollandiae*. In addition to more southerly records, D.M.S. saw twenty at 22°S, 166½°E off New Caledonia on 13 September 1967, two hundred there on 17 February 1969, and sixty at 19¾°S, 167¾°E among the New Hebrides on 9 February 1969, while J.D.S. saw twelve at 10¾°S, 126½°E off Timor on 26 September 1967.

Northern Black-headed Gull, *Larus ridibundus*. P.W.G.C. saw over a thousand at 29°N, 48¼°E in the northern Persian Gulf on 19 January 1969 and in Bombay Harbour on 26 December 1968, in addition to more northerly records.

Slender-billed Gull, *Larus genei*. J.O.B. describes one seen closely among a hundred birds possibly of this species at Port Etienne, Mauretania, on 16 November 1967.

Little Gull, *Larus minutus*. R.de J. et al. saw two or three at 50°N, 1°W in the English Channel on 21 September 1966, and P.W.G.C. some off Rotterdam on 23 July 1968. K.D.A.L. reports an adult at 55½°N, 9¾°W off northern Ireland on 28 August 1967.

Common Kittiwake, *Rissa tridactyla*. K.S. did not see many while sailing round the northern extremity of the Pacific in the summer of 1966, but met one at 54½°N, 172°E on 11 August. P.W.G.C. recorded 230 at 39°N, 142¼°W west of California on 27 November 1967, and over a thousand at 42¼°N, 141°W next day.

Red-legged Kittiwake, *Rissa brevirostris*. K.S. saw one at 54¾°N, 179°W off the Aleutians on 9 August 1966.

Swallow-tailed Gull, *Creagrus furcatus*. S.E.C. saw a number off Peru, including six at 7°S, 80°W on 6 September 1967, 22 at 11°S,

77°W on 14 June 1967, 15 at 14½°S, 76°W on 14 January 1968, and 23 at 15°S, 76°W on 3 February 1968.

Sabine's Gull. *Xema sabini*. The number of records of this bird on migration and in its winter quarters, where it was so long overlooked, swells to a flood. Off Iberia R.de J. et al. recorded twelve at 40°N, 9°W on 23 September 1966, off west Africa one at 20°N, 17°W on 27 September, six at 8°N, 13°W on 3 October and one at 11°N, 17°W on 4 November that year. Off Peru S.E.C. saw several hundred in groups and large flocks resting on the water with pelicans and Franklin's Gulls, *Larus pipixcan*, which were flushed as the vessel passed. The birds were concentrated where their "lines" on the sea surface and areas of whitish foam aligned east-west at right angles. Many more were seen again while sailing south during the afternoon. 25 were seen again at 13°S, 78°W on 22 January 1967, 16 at 2½°S, 81½°W on 4 September 1967, two at 7°S, 80°W two days later, three at 16¾°S, 72¾°W on 8 October 1967, 19 at 6½°S, 82°W five days later, three at 4½°N, 77¾°W on 1 January 1968, 200 at 4¾°S, 81¼°W on 9 January 1968, 120 at 14¾°S, 76°W ten days later, 471 at 15°S, 76°W on 3 February 1968, 106 at 8°S, 80¼°W two days later, 32 at 4°S, 81¼°W on 13 April 1968 and four at 4½°S, 81½°W five days after that.

Terns: Family *Sternidae*

Black Tern, *Chlidonias nigra*. There are several records of the numbers found in the winter quarters. In the Atlantic N.G.C. saw 1,500 birds probably of this species at 5½°N, ¾°E off the coast of Ghana on 16 August 1963 and R.de J. et al. saw nearly 2,000 at 19°N, 17°W off Mauretania on 29 September 1966. In the Pacific P.W.G.C. saw some 288 at 9°N, 80°W off Panama on 3 November 1967, and S.E.C. many thousands (1,300 counted in ten minutes) wheeling in a grey-brown mass over the sea southwards at 4¾°S, 81½°W off Ecuador on 9 January 1968.

White-winged Black Tern. *Chlidonias leucoptera*. D.M.S. recorded first 200 and then 1,000 at 13½°N, 100½°E in the Bangkok River on 29 April 1968. R.de J. et al. also report one without details at 23°N, 16°W off Mauretania on 26 September 1966; however, this species seems to be rare out at sea with wintering Black Terns.

Gull-billed Tern. *Gelochelidon nilotica*. R.de J. et al. recorded over 500 at 19°N, 17°W off Mauretania on 27 September 1966, and 180 at 14°N, 17°W next day.

Arctic Tern. *Sterna paradisea*. P.W.G.C. recorded six at 19½°S, 16½°W on 7 October 1967, three at 16½°S, 11¼°W next day, one at 13½°S, 5¾°E the day after, and two at 6¼°S, 5°E two days later.

Black-naped Terns. *Sterna sumatrana*. D.M.S. recorded doubtfully as this species large numbers of White Terns seen around the East Indies. These included 500 and then 6,000 feeding with other seabirds over shoals of tuna at 9°S, 143°E in the Torres Strait on 6 May 1967, 150 seen at 4°S, 145°E off the north coast of New Guinea on 15 January 1969, 10,000 seen in the distance with other seabirds at 4°S, 154°E near New Britain on 21 January 1969, a

hundred seen at 5°S, 152°E nearby on 4 October 1967, two at 10°S, 161°E in the Solomons on 1 February 1969, and twenty at 20°S, 167¾°E in the New Hebrides eight days later. It is apparently unusual for this species to gather in such large concentrations as the earlier ones cited, though, and it seems likely these were other species in winter plumage; the birds occurring in this area clearly need more investigation.

Sooty Tern, *Sterna fuscata*. We are accumulating a vast number of records of this species, and it seems likely that in time they will provide invaluable information on its mysterious movements. In the Atlantic, P.W.G.C. achieved the record total with 1,000 (and two Bridled Terns) in parties, some of them fishing, two being harried by Pomarine Skuas, and one party visible for over a mile on radar, at 11½°N, 73°W off Venezuela on 16 December 1967. He also saw a hundred including a good many dark juveniles at 8°N, 55½°W off Surinam on 8 December 1965, 310 at 12¼°N, 51½°W on 25 June 1968, 225 at 1½°N, 42¼°W on 22 October 1967, a hundred at ¼°S, 2½°E in the Gulf of Guinea on 15 October 1967, and fifty at 1½°S, 3½°E here on 23 January 1968, while lesser numbers were recorded all across this area. R.de J. et al. sailing the other way in October 1966 saw the first at 8°N, 31°W on the 7th, 225 at 8°N, 44°W on the 10th, 900 at 8°N, 50°W next day, 275 at 8°N, 54°W the day after, 1,600 at 8° to 11°N, 58° to 50°W the day after that, nearly 1,000 at 11°N, 62°W on the 15th, and 100 at 11°N, 27°W returning on 2 November, while J.O.B. also saw 100 at 4¾°N, 29¼°W on 27 December 1966. K.D.A.L. also reports without comment individual birds as far north as 51½°N, 40°W and 49¾°N, 43¾°W on 31 August and 11 September 1967.

In the Indian Ocean P.W.G.C. produced many records. He saw 100 at 5°N, 58°E on 6 September 1967 and 800 at 8°S, 47°E three days later, 200 at 14¾°S, 41¼°E on 4 January 1968, 66 at 5½°N, 59°E on 27 November 1968 and twenty at 59½°E on the equator next day, 61 at 17½°S, 57¾°E on 1 December 1968, 16 at 19½°S, 51°E on 3 December 1968 and 100 at 8°S, 58½°E three days later, 300 at 7½°N, 52¾°E on 15 December 1968 and 54 at 4½°N, 99°E on 2 January 1969. K.S. also had many records, including 80 at 28°S, 40½°E on 16 April 1967, one at 30½°S, 55¼°E on 5 November 1967, 100 at 2°N, 74°E on 7 November 1968, twelve at 10°S, 63½°E four days later, 13 at 21°S, 50¾°E two days after that, 400 at about 26°S, 43°E on 15 November 1968, 5 at 6¼°S, 67½°E four days later, 15 at 27¼°S, 41°E on 17 September 1969, 100 at 26°S, 42¼°E on 3 October 1969, and thirty at 22½°S, 52¼°E two days later. J.A.P. saw 200 at 8°S, 76½°E on 13 September 1968. D.S. ninety at 6¼°N, 79½°E on 1 April 1967 and fifty at 2°N, 80°E on 3 May 1967, and J.F.S. single birds at 2½°S, 92¼°E and 5°S, 94°E on 1 and 2 April 1967.

In the Pacific area D.M.S. had many records in the east. He saw 500 at 25½°N, 128¾°E on 28 July 1967, twelve at 10°S, 161°E on 1 February 1969, forty at 18°S, 167°E next day, forty and fifty at 20°S, 167¾°E on 8 and 9 February 1969, twenty at 22°S,

166°E eight days later, 300 at 7°S, 150°E on 16 April 1969, three at 19¼°S, 162¾°E on 2 June 1969 and 250 at 14¾°S, 159¾°E next day, 600 at 7¾°S, 151°E on 7 June 1969 and 200 at 9¾°S, 143¼°E on 15 August 1969. P.W.G.C. saw twenty at 22 N, 85½°E on 15 September 1965, two at 14½°N, 133½°W on 5 October 1965, six at 12¾°N, 116¾°E on 2 November 1965 and 18 at 9¼°N, 111½°E next day, and one at 5½°N, 103¼°E on 11 February 1969. K.S. saw thirty at 10½°N, 111¾°E on 22 October 1969, and D.J.S. 100 at 6¾°N, 129¼°E on 24 September 1967 and 300 at 10¾°S, 134¾E on 12 November 1967.

Bridled or Brown-winged Tern, *Sterna anaethetus*. D.M.S. reports 1,500 at 19½°S, 147¾°E on 19 October 1969, forty at 17½°N, 113¼°E on 6 May 1968 and twenty at 8°S, 152°E on 25 January 1969, and P.W.G.C. four at 11½°N, 73°E on 16 December 1967 and one at 10°N, 102°E on 15 February 1969, among other records.

Crested Tern, *Thalasseus bergii*. There are numerous records in the Indian Ocean, and D.M.S. produced many in the east Pacific. He reported two at 25½°N, 129°E on 28 July 1967, fifty at 16¾°N, 113°E on 4 May 1968, six at 6¾°N, 122°E on 7 September 1969, fifteen at 6°N, 122°E on 8 August 1967, three at 2°N, 132½°E two days later, seven at 2°S, 139°E on 15 August 1967, ten at 6°S, 147°E on 27 August 1967, thirty at 7°S, 150°E on 16 April 1969, one nearby at 8°S, 152°E on 28 January 1969, twelve at 10°S, 161°E on 1 February 1969, eighty nearby at 10°S, 160°E on 4 September 1967 and fifty again at 9½°S, 160½°E on 13 September 1967, one at 11¼°S, 152°E on 2 September 1967, fifty at 9°S, 143°E on 6 May 1967, thirty and eighty at 19¾°S, 167¾°E on 3 and 9 February 1969, and fifty at 22°S, 166°E on 17 February 1969. D.J.S. saw three at 6¾°N, 129¼°E on 24 September 1969, and P.W.G.C. seven at ½°N, 104½°E near Singapore on 9 November 1965 and 250 possibly of this species at 12½°N, 74¾°E in the Indian Ocean on 28 December 1968, among other records there.

Lesser Crested Tern, *Thalasseus bengalensis*. Among records in the Indian Ocean, P.W.G.C. saw 120 and 144 at 6¾°S, 39¼°E on the coast of Tanzania on 8 and 9 December 1968.

Blue-grey Noddy, *Procelsterna cerulea*. D.M.S. reports twenty Terns seen at 18°S, 167°E in the New Hebrides as possibly this species.

Common or Brown Noddy, *Anous stolidus*. Among various records, R.de J. et al. record 24 at 8°N, 40°W and twenty again at 8°N, 49°W north of Brasil on 9 and 11 October 1966, J.O.B. forty in this area at 4°S, 32½°W on 25 December 1966, and K.S. 110 at 20°S, 56°E near Mauritius on 6 October 1969. In the Pacific D.M.S. saw 60 at 16¾°N, 113°E on 4 May 1968 and 3,000 at 4°S, 154°E on 21 January 1969.

White-capped Noddy, *Anous minutus*. Among various records, D.M.S. saw 1,500 at 4½°S, 153°E near New Britain on 17 and 19 August 1967, 200 at 11¼°S, 151¼°E off the east end of New Guinea on 29 August 1967, 2,000 at 12°S, 142¼°E in the Torres Strait on

13 September 1969.

White Tern, *Gygis alba*. D.M.S. reports seeing three White Terns with forked tails, black bills, and a large black eye with a thick black mark behind it at 6½°S, 131¾°E in the Banda Sea north of the Tanimbar Islands on 22 October 1969, which he thought might be this species. They might of course also be another in winter plumage.

Auks: Family *Alcidae*

Little Auk, *Plautus alle*. In the western Atlantic the southernmost records were 31 seen by P.W.G.C. at 38°N, 74¼°W south of New York on 12 November 1966, and five seen by S.E.C. at 38¼°N, 57°W on 21 December 1967.

Crested Auklet, *Aethia cristatella*. Among various small north Pacific alcids, K.S. reported one of these at 53¾°N, 151¾°W on 6 August 1966 while sailing round the North Pacific.

Atlantic Puffin, *Fratercula arctica*. K.D.A.L. reported many at 47°N, 40°W far east of Newfoundland on 2 December 1967, perhaps part of the elusive wintering area of this species, on which more notes are needed. J.O.B. saw 5,000 at 71¼°N, 26¼°E off the North Cape on 30 July 1967.

REVIEW

THE HANDBOOK OF AUSTRALIAN SEA-BIRDS. D. L. Serventy, Vincent Serventy and John Warham, 1971. pp. 254, 142 diagrams and illustrations (fifteen in colour). A. H. and A. W. Reed Ltd., Sydney, Melbourne, Wellington and Auckland

This is one of the more important seabird publications of recent years, by three of the most experienced authorities on Australasian seabirds. The first 44 pages consist of an introduction describing the past and present environment, the types of seabird occurring in Australia and a variety of aspects of their biology, and Australian seabird research and conservation problems. The remainder is occupied by systematic accounts of each species under the headings "Field characters and general habits", "Measurements", "Status", "Voice", "Display", "Breeding", "Enemies and mortality", and "Breeding Distribution" of varying length, and 7½ pages of references. The information provided is much more accurate and comprehensive than in some other recent books, and the authors supplied much of it themselves. No attempt is made to provide systematic illustrations of all species, but there is a liberal supply of illustrative diagrams and photographs, most of the latter by John Warham, dealing with points of special interest, some of the photographs of Petrels in flight being particularly noteworthy. It is a pity this outstanding work took a decade to be published: some more recent antipodean experts are going to find it hard to compete with it.

W. R. P. B.

1971

Trowbridge, R. J., Rear Admiral, Flag Officer Royal Yachts, H.M. Yacht *Britannia*

Barnett, T. W., Captain M.N., "Swallow Hill', Prospect Road, Osbaston, Monmouth, NP5 3HS

Duke, M. R., Captain M.N., "Cedarwood", Castle Close, Rock, Haverfordwest, Pembs.

Hunt, W. G., Captain M.N., c/o. F. T. Everard & Sons Ltd., 6/8 Fenchurch Buildings, London E.C.3

Nunnerley, Revd. W. J. A., B.A., R.N., The Rectory, Gwetnesney, Usk, Monmouth

Eley, T. J., jnr., 1st Lt. U.S. Marine Corps, Quntus 1926A M.C.A.S., Marine Corps Base, Yuma, Arizona, 85364, U.S.A.

Addinall, E., Chief Engineer M.N., 34 Ravensworth, Richmond, Yorks.

Philp, R., Asst. Scientific Officer, "Copper View", Phillack, Hayle, Cornwall

Ogle, D., Asst. Scientific Officer, 72 Beverley Gardens, Bangor, Co. Down, N. Ireland

Morrison, I. C., Chief Officer M.N., 106 Cuckoo Lane, Stubbington, Fareham, Hants.

Hobbs, R. D. T., Lieut. R.N., 6 Abbots Way, Westbury-on-Trym, Bristol BS9 4SW

Gray, Revd. M. F. H., R.N., 21 Solent Road, East Wittering, Chichester, Sx.

Griffiths, C. I., Asst. Scientific Officer, 59 St John's Road, Hightown, Wrexham, N. Wales

Larsen, R. T., Commander M.C., U.S.N., 925 E. North Street, Morris, Illinois, U.S.A.

Allen, T. G., Lieut., R.N., 12 Home Park, Stoke, Plymouth, S. Devon

Walbridge, P. B., Ord. E.M., R.A.N., 16 Stuart Street, Nowra, N.S.W., Australia 2540

Waldie, J. W., Captain M.N., 34 Valley Drive, Kirk Ella, Hull HU10 7PL

Wellman, J. C., F.C.M.E.A.(H.), 14 Cunningham Road, Rosyth, Dunfermline, Fife

Stevens, B. J., C.P.O., 8 Oakdown Road, Stubbington, Fareham, Hants.

Scott, D. B., Lieut. R.N., Longmead, Dry Sandford, Abingdon, Berks.

Owen, J. I., Captain M.N., 91 Nevile Avenue, Hove, Sussex BN3 7NE

1972

Roberts, R. R. M., Able Seaman, 4 Elm Drive, Hatfield, Herts.

Stonehouse, Dr Bernard, School of Environmental Sciences, The University, Bradford, Yorkshire

Sanderson, E. C., N.A.M.2(A/E), 54 Sinclair Road, Hartlepool, Co. Durham, TS25 3QL

Cowell, M. J., Sub. Lieut. R.N., 138 Scotland Road, Georgetown,

Penang, Malaysia
Hollingdale, R. G., Captain M.N., Polwheveral Cottage, Polwheveral, Constantine, Falmouth, Cornwall
Keyte, J. H., Captain M.N., Merrimaes, Peasmarsh, Rye, Sussex
Hutchinson, P. H., Sub-Lieut. R.N., 42 Between Streets, Cobham, Surrey
Smith, P. F., Able Seaman, 17 Stanford Close, Hooe, Plymouth, S. Devon
Le Flufy, F. St. J., Lt. Commander R.N., The Naval Club, 38 Hill Street, London W1X 8DP
Winn, J. K., Captain M.N., Master Mariner, 5 Leewood Road, Weston-Super-Mare, Somerset
Barritt, M. K., Lieut R.N., 17 Kensington Gate, Glasgow G12 9LG
Rose, P. J., Captain M.N., 5 Riddlesdown Avenue, Purley, Surrey
Wrigley, S. E. H., 2nd Officer M.N., Hollywood, Ridley Grove, West Kirby, Cheshire
Young, A. S., Captain M.N., 16 Woodside Crescent, Glasgow G3 7UT
Will, R. R., Captain M.N., Riverdale, 3 Bridge Street, Barnhill Dundee

CORPORATE MEMBERSHIP

1972
Light Tender *Relume*, Middle East Navigation Aids Service (Bahrein), (MENAS), 51 Bishopsgate, London E.C.2
Thirteen Ships of the Fleet of W. A. Souter & Co. Ltd., Clayton House, Regent Centre, Gosforth, Newcastle-upon-Tyne, NE3 3HW
National Institute of Oceanography, (The Librarian), Wormley, Godalming, Surrey

NEW ASSOCIATE MEMBERS

1972
J. Sultana, Hon. Sec., Malta Ornithological Society, 3 Scilerras Flats, Fleur-de-Lys Junction, B'Kara, Malta, G.C.
General Sir Gerald Lathbury, G.C.B., D.S.O., M.B.E., M.B.O.U., c/o Lloyds Bank Ltd., Cox & Kings Branch (for R. W. Jeskins, Esq.), 6 Pall Mall, London S.W.1
(President of the Army Bird Watching Society.)
Warren B. King, Division of Birds, Smithsonian Institution, United States National Museum, Washington D.C. 20560, U.S.A.

OBITUARY

P. A. Rayfield, (former R.N.B.W.S. member), 22nd March 1971
Dr C. De Lucca (former R.N.B.W.S. local representative R.N.B.W.S.), April 1971
Dr J. M. Harrison, D.S.C., M.R.C.S., L.R.C.P., (Life Member R.N.B.W.S.), 1971
Captain H. J. Lee, D.S.C., C.B.E., R.N., (Life Member R.N.B.W.S.), 22nd May 1971

Vice Admiral G. M. B. Langley, C.B., O.B.E., (Life Member R.N.B.W.S. and former Vice-President), 17th April 1971
K. A. Hindwood (former Local representative R.N.B.W.S., N.W.S. Australia), March 1971
Cdr. R. H. Phillips, R.N., (former R.N.B.W.S. member), May 1972

MEMBERSHIP SUMMARY (25-8-72)

New Members 1971	21
New Members 1972	15
New Corporate Members 1972	2 + 13 ships of fleet of W. A. Souter & Co Ltd. – 15
New Associate Members 1972	4
Total Associateship Membership	64

Membership state (25-8-72)

Ex-Officio	7
Hon. Members	13
Life Members (original)	40
Life Members	13
Ordinary Members	209
Corporate Members	3 + 6 ships Fishery Protection Squadron + 13 ships Fleet of W. A. Souter & Co. Ltd. (22)

TOTALS 282 + 22 Corporate = 304

R.N.B.W.S. REPRESENTATIVES OVERSEAS

AUSTRALIA

Western Australia:
Julian Ford, 7 Pinner Place, Lynwood, Western Australia
Victoria (Melbourne):
Roy Wheeler, 59A Upton Road, Windsor SI (Bird Observers Club R.A.O.U.)
Victoria (Geelong):
J. R. Wheeler, 19 Roslyn Road, Belmont, Geelong
New South Wales:
Arnold R. McGill, 95 Nuwarra Road, Moorebank 2170, N.S.W.
Queensland:
L. A. Neilsen, Box 12, Jandowae, Queensland 4410
Tasmania:
D. G. Thomas, 9 Lallaby Road, Moonah, Tasmania (4 miles from Hobart). (President, Tasmanian Field Naturalists Club)

CANADA

Dr Eric L. Mills, Asst. Professor, Dept. of Biology, Institute of Oceanography, Dalhousie University, Halifax, Nova Scotia
Dr Roger Pocklington, Bedford Institute, Dartmouth, Nova Scotia
Dr R. G. B. Brown, Canadian Wild Life Service, Marine Ecology Laboratory, Bedford Institute, Dartmouth, Nova Scotia
Dr M. T. Myres, Dept. of Biology, University of Calgary, Calgary 44, Alberta

Dr Paul Germain, Professor Biology Department, Universite de Moncton, Moncton, New Brunswick

DENMARK

Lektor Hans Hvass, M.SC., Grondalsvej 53, Copenhagen F. (Hon. Member, R.N.B.W.S.)

HONG KONG

Hon. Secretary, Hong Kong Bird Watching Society, c o The Chartered Bank, Hong Kong. (President, Commander E. D. Webb, R.N., Government House Lodge, Hong Kong.)

MALTA

J. Sultana, 3 Seiberras Flats, Fleur-de-Lys Junction, B'Kara, Malta, G.C. (Hon. Sec. Malta Ornithological Society.)

NETHERLANDS

Professor Dr K. H. Voous, Zoological Museum, Plantage Middenlaan 53, Amsterdam (C). (Hon. Member R.N.B.W.S.)

Dr J. Wattel, Zoological Museum, Plantage Middenlaan 53, Amsterdam (C)

NEW ZEALAND

Dr R. A. Falla, C.M.G., M.A., DR.SC., Katari Road, Days Bay, Eastbourne, (North Island). (Hon. Member R.N.B.W.S.)

F. C. Kinsky, Dominion Museum, Wellington C3, (North Island)

R. M. Lockley, 6 Calder Place, Auckland 6, (North Island). (Hon. Member R.N.B.W.S.)

SOUTH AFRICA

Professor J. M. Winterbottom, Director, Percy Fitzpatrick Institute of African Ornithology, University of Capetown, Rondebosch C.P.

D. Caywood, 1 Hunting Towers, Aliwal Road, Wynberg, C.P. (R.N.B.W.S. Member, ex-C.P.O., R.N.)

SOUTH AMERICA

A. J. Brown, c/o F.C.A.B., Casilla S y T, Antofagasta, Chile

U.S.A.

Dr R. G. Wolk, Seaford, New York 11783. (Curator Nassau County Museum of Natural History, State of New York, Long Island Region)

W. B. Robertson, Jnr., 17300 SW 300th Street, P.O. Box 279, Homestead, Florida 33030. (Park Biologist, Everglades National Park.) (Members visiting Port Everglades or Miami.)

Lieut. Cdr. R. Stackpole, U.S.N.R., Normandy, Ocean Avenue, Newport, R.I. (Member R.N.B.W.S.)

Arnold Small, 3028 Cavendish Drive, Los Angeles 90064. (President, Los Angeles Audobon Society)

WEST INDIES

Dr C. B. Lewis, O.B.E., Director and Curator, The Science Museum, Institute of Jamaica, Kingston, Jamaica. (Hon. Member R.N.B.W.S.)

THE FOLLOWING NATURAL HISTORY MUSEUMS, ETC., RECEIVE COPIES OF *SEA SWALLOW*

(Names of contacts in brackets)

AUSTRALIA:

C.S.I.R.O. Division of Wild Life Research, Canberra A.C.T. 2600 (W. B. Hitchcock)

Curator of Birds, Australia Museum, College Street, Sydney N.S.W. H. J. de S. Disney, M.A.)

National Library of Australia, Canberra, A.C.T. 2600 (The Librarian)

Directorate of Public Relations Department of the Navy, Navy Office, Canberra A.C.T. 2600. (Mr Hugh Elliot)

CANADA:

National Museum of Canada, Ottawa 4 (The Librarian)

McGill University Library, 3459 McTavish Street, Montreal 2-PQ (The Librarian)

Dept. of Biology, University of Calgary, Calgary, Alberta (Dr M. F. Myres)

The Masters Canadian Coast Guard Ships *Quadra* and *Vancouver* (Victoria, British Columbia)

DENMARK:

The Zoologisk Museum, Univusitetsparker 15, DK-2100, Copenhagen (The Librarian)

FRANCE

Museum of Natural History, Rue de Buffon 55, Paris V. (Monsieur C. Jouanin)

Ar Vran Faculte des Sciences, Brest (M. Le Demezet)

FEDERAL REPUBLIC OF GERMANY:

Zoological Museum Alexander Koenig Library, 52 Bonn, Adenauerallee 150-164 (Dr G. T. Niethammer)

HONG KONG:

Hong Kong Bird Watching Society

INDIA:

Bombay Natural History Society, Bombay (J. C. Daniel, Curator)

MALTA:

Malta Ornithological Society

NETHERLANDS:

Rijksmuseum of Natural History, Leiden

Zoological Museum, University of Amsterdam, Amsterdam (Professor Dr K. H. Voous – Dr J. Wattel)

NEW ZEALAND

Zoology Department, University of Canterbury, Christchurch (J. Warham)

Dominion Museum, Wellington (Dr F. C. Kinsky)

Director, New Zealand Oceanographic Institute D.S.I.R., Wellington (E. W. Dawson)

NORWAY

Dept. of Zoology, Tromso Museum, N-900, Tromso (Dr E. Brun)

U.S.A.

The American Museum of Natural History, New York (Librarian)
Bernice P. Bishop Museum, Honolulu, Hawii (Librarian)
Peabody Museum, Yale, New Haven, Connecticut (Dr Ripley)
Smithsonian Institution, Division of Birds, Washington D.C. (G. E. Watson, W. B. King, P. Gould)
University of California, Los Angeles (Biomedical Library), Centre of Health Services (The Librarian)
Alfred O. Gross Library of Ornithology, Bowdain College, Brunswick, Maine (The Librarian)
Library of Comparative Zoology, Harvard University, Cambridge, Mass. (Librarian)
Dept. of Anthropology, Ohio State University, Ohio (P. W. Post)
Rockefeller University, New York (R. Haver Wiley, Jnr.)
Colorado State University, Colorado City (D. W. Lupton, Hd. of Serials, Librarian)

U.K. (GREAT BRITAIN):

Army Bird Watching Society (Lt.-Col. C. N. Clayden, Candlewick Cottage, Avenue Road, Fleet, Hants.)
Royal Air Force Ornithological Society (Wing Commander C. B. Elford, R.A.F., Rm 435, Adastral House, Theobalds Road, London W.C.1)
Diplomatic Service Ornithological Society (Garth Pettitt, Commodities Department of Trade Policy, Foreign Commonwealth Office, London S.W.1)
Hampshire Field Club (Ornithological Section), Winchester
Editor Zoological Record, Zoological Society, Regents Park, N.W.1
Secretary, Fauna Preservation Society, Zoological Society, Regents Park, N.W.1
Director, Seafarers Education Service and College of the Sea (plus copies to Library Service)
Director General, Meteorological Office (M.O.I.), Bracknell (Lt. Cdr. L. B. Philpott, D.S.C., R.D., R.N.R.)
British Trust for Ornithology, Tring
The Recorder, Cape Clear Bird Observatory (Dr Shurrock)
The Director of Public Relations (R.N.), Ministry of Defence
International Council for Bird Preservation (British Section)
Editor 'British Birds' (I. J. Ferguson Lees)
British Ornithologists Club
Scottish Ornithologists Club
National Institute of Oceanography, Godalming (Librarian) (R.N.B.W.S. Corporate Member)
The Editor, Ibis
The Captain in Charge, Ocean Weather Ship Base, Greenock
The British Museum (Copyright Receipt Office)
The Balfour Library, Oxford
The Bodeleian Library, Oxford
The Ulster Museum Library, Belfast (D. Denne, Esq.)

B.B.C. Natural History Unit, Bristol (J. Boswell, Esq.)
The Seabird Group (Dr J. D. Parrack)
The Dept. of Zoology, Edward Grey Institute of Field Ornithology, Oxford (The Librarian)
The Royal Society for Protection of Birds, Sandy, Bedfordshire (Librarian)

ASSOCIATE MEMBERS

GREAT BRITAIN:

Dr D. A. Bannerman, O.B.E., M.A., SC.D., LL.D., F.R.S.E. (Arundel); D. J. Slinn (Port Erin); E. D. Ponting (Stafford); I. McLean (Holyhead); E. I. S. Rees (Llanfairpwll); Garth Pettitt (London); H. P. Kay Robinson (Penzance); Miss Clement Acland (Banstead); Dr Roger Bailey (Torpkins, Aberdeen); E. W. Baker (Skegness); A. Blackett (North Shields); Jeffrey Boswell (Bristol); C. Douglas Deane (Belfast); J. Houston (Brockley, London); A. L. Durand (Diss); Lt. Cdr A. Y. Norris (Fareham); Dr J. D. Parrack (Whitley Bay); P. Walker (Bridlington); A. D. K. Ramsay (Roslin, Midlothian); Bernard Watts (Dorchester); J. C. Darnell (Grimsby); Alan Rogers (Belfast); T. D. Rogers (Fareham); General Sir Gerald Lathbury, G.C.B., D.S.O., M.B.E. (London, Spain); D. R. Wilson (Aylesbury)

AUSTRALIA:

Roy Wheeler (Windsor, Victoria); J. R. Wheeler (Geelong, Victoria); Julian Ford (Lynwood, W. Australia); L. A. Nielsen (Queensland); A. R. McGill (Moorechurch, New South Wales); D. G. Thomas (Moorah, Tasmania)

BELGIUM:

G. Huyskins (Antwerp)

CANADA:

Dr K. F. Edwards (Kingston, Ontario); Dr R. G. B. Brown (Dartmouth, Nova Scotia); Dr P. Germain (Moncton, New Brunswick); Dr M. T. Myres (Calgary, Alberta); Dr Roger Pocklington (Dartmouth, Nova Scotia); Dr E. L. Miles (Halifax, Nova Scotia); P. J. Cowan (Winnipeg, Manitoba)

ETHIOPIA:

Dr J. S. Ash (Addis Ababa)

FEDERAL REPUBLIC OF GERMANY:

Dr Hubert Bruns (Hamburg)

FRANCE:

Christian Jouanin (Paris); Dr S. Autgaerden, M.D. (Paris)

INDIA:

J. C. Daniel (Curator, Bombay Natural History Society)

NETHERLANDS:

Dr J. Wattel (Amsterdam); K. W. L. Bezemer (Wessenaat); R. Haverschmidt (Ommen)

NEW ZEALAND:

Dr F. C. Kinsky (Wellington); J. Warham (Christchurch); E. W. Dawson (Wellington)

NORWAY:

Dr E. Brun (Tromso)

POLAND:

Prof. Dr W. Rydzewski (Wroclaw)

SOUTH AFRICA:

Dr J. M. Winterbottom (Rondebosch, C.P.)

SOUTH AMERICA:

A. J. Brown, Esq., (Antofagasta, Chile)

SWITZERLAND:

Raymond Leveque (Geneva)

U.S.A.:

Dr Malcolm Gilmartin (Pacific Grove, California); Dr C. E. Huntington (Brunswick, Maine); Mark L. Libby (New Harbour, Maine); P. W. Post (Ohio); Orville Crowder (Harpers Ferry, West Va.); R. Haven Wiley, Jnr. (New York); W. B. King (Washington, D.C.); Dr R. G. Wolk (New York); W. B. Robertson, Jnr. (Homestead, Florida)

THE ROYAL NAVAL BIRD WATCHING SOCIETY

RECEIPTS AND PAYMENTS ACCOUNT

FOR THE YEAR ENDED 30TH NOVEMBER 1971

1970					1970				
£	£		£	£	£	£		£	£
409		Balance 1st December 1970					Production of *Sea Swallow*		
		Cash at Bank		319.04			(Vol. 20 (1968) (Vol. 21 (1969/70)		
		Subscriptions					(700 copies) (Blocks only: see Note 2)		19.00
		Current Year			328		Printing		
	43	Under Covenant	46.45			—	R.N.B.W.S. Letterheads	3.75	
	79	Other	94.67			11	Sea Report Sheets	—	
	5	Arrears	4.50			—	Bankers' Order Forms	1.50	
	8	In Advance	7.42			2	Minutes of A.G.M. 1970	—	
135				153.04		1	Audited Statement 1970	1.27	
18		Donations		41.13		15	Bulletins 76-79 and Joining Forms	20.40	
36		Income Tax recovered on members' covenanted subscriptions, donations year to 5th April 1970 (see Note 1)		34.76	29				26.92
9		Interest on Investment (Net)		8.99	6		Expenses of A.G.M.		5.50
		Income Tax recovered on Investment			36		Postage and Stationery		35.32
—		Interest for 1969-70		12.32	47		Production cost of Christmas Cards		—
		Other Receipts					Subscriptions		
121		Sale of *Sea Swallow*		31.74	2		British Trust for Ornithology		2.50
36		Sale of Christmas Cards 1970		39.40	2		I.C.B.P. (British Section)		2.10
3		Sale of *Seabirds of South Pacific*		4.64	1		Bank Charges		3.76
3		Sale of Members' Ties		13.00	319		Balance 30th November 1971		571.96
—		Advertisement in *Sea Swallow*		9.00					
£770				£667.06	£770				£667.06

NOTES:

1. A claim for Refund of Income Tax amounting to £39.37 re covenants of members' subscriptions or donations for year ended 5th April 1971 is at present in the hands of the Inland Revenue
2. Apart from payment for the Blocks for *Sea Swallow* Vol. 21 (1969/70), the cost of producing 545 copies of Vol. 21 amounts to £446.90 which is not included in this year's statement and will be shown in next year's account.
3. In addition to cash at bank the assets of the Society include £206.55 Greater London 7¼% Stock 1977.

I have examined the above account with the books and records of the Society and certify that it is in accordance therewith.

Costards,
West Lavington,
MIDHURST, Sussex.
1st December 1971.

R. G. PEGLER, F.C.A.,
Honorary Auditor.